Paul Kurtz | Holy Dirt | Physicists against Philosophy | Science & Civility | Repressed Memories Return

Skeptical Inquirer

THE MAGAZINE FOR SCIENCE AND REASON

Vol. 37 No. 1 | January/February 2013

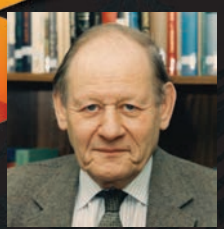
THE PSYCHOLOGY OF DOOMSDAY DECEMBER 2012

INDIGNATION IS NOT RIGHTEOUS

CREATIONIST INTERPRETATIONS OF *BEOWULF*

MODERN MEDICINE VS. BIBLICAL COMMENTARY

THE SECRET LIFE OF J. ALLEN HYNEK



PAUL KURTZ
IN MEMORIAM
Tributes by
Ray HYMAN
James RANDI
Daniel DENNETT
James ALCOCK
Kendrick FRAZIER
Michael SHERMER
Steven NOVELLA
...and many others

0 71486 02614 3

Published by the Committee for Skeptical Inquiry

Committee for Skeptical Inquiry

at the Center for Inquiry—Transnational

An International Organization

Ronald A. Lindsay, President and CEO
Barry Karr, Executive Director
Joe Nickell, Senior Research Fellow

Massimo Polidoro, Research Fellow
Benjamin Radford, Research Fellow
Richard Wiseman, Research Fellow

www.csicop.org

Fellows

James E. Alcock*, psychologist, York Univ., Toronto
Marcia Angell, MD, former editor-in-chief, *New England Journal of Medicine*
Kimball Atwood IV, MD, physician; author; Newton, MA
Stephen Barrett, MD, psychiatrist; author; consumer advocate, Allentown, PA
Willem Betz, MD, professor of medicine, Univ. of Brussels
Irving Biederman, psychologist, Univ. of Southern CA
Sandra Blakeslee, science writer; author; *New York Times* science correspondent
Susan Blackmore, visiting lecturer, Univ. of the West of England, Bristol
Mark Boslough, physicist, Sandia National Laboratories, Albuquerque, NM
Henri Broch, physicist, Univ. of Nice, France
Jan Harold Brunvand, folklorist; professor emeritus of English, Univ. of Utah
Mario Bunge, philosopher, McGill Univ., Montreal
Robert T. Carroll, emeritus professor of philosophy, Sacramento City College; writer
Sean B. Carroll, molecular geneticist; vice president for science education, Howard Hughes Medical Institute, Madison, WI
Thomas R. Casten, energy expert; founder and chairman, Recycled Energy Development, Westmont, IL
John R. Cole, anthropologist; editor, National Center for Science Education
K.C. Cole, science writer; author; professor, Univ. of Southern California's Annenberg School of Journalism
Frederick Crews, literary and cultural critic; professor emeritus of English, Univ. of CA, Berkeley
Richard Dawkins, zoologist, Oxford Univ.
Geoffrey Dean, technical editor, Perth, Australia
Cornelis de Jager, professor of astrophysics, Univ. of Utrecht, the Netherlands
Daniel C. Dennett, Austin B. Fletcher Professor of Philosophy and director of Center for Cognitive Studies, Tufts Univ.
Ann Druyan, writer and producer; CEO, Cosmos Studios, Ithaca, NY
Sanal Edamaruku, president, Indian Rationalist Association and Rationalist International
Edzard Ernst, professor, Complementary Medicine, Peninsula Medical School, Universities of Exeter and Plymouth, Exeter, UK
Kenneth Feder, professor of anthropology, Central Connecticut State Univ.
Barbara Forrest, professor of philosophy, SE Louisiana Univ.
Andrew Fraknoi, astronomer, Foothill College, Los Altos Hills, CA
Kendrick Frazier*, science writer; editor, Skeptical Inquirer
Christopher C. French, professor, Department of Psychology, and head of the Anomalistic Psychology Research Unit, Goldsmiths College, Univ. of London
Yves Galifret, executive secretary, l'Union Rationaliste
Luigi Garlaschelli, chemist, Università di Pavia (Italy); research fellow of CICAP, the Italian skeptics group
Maryanne Garry, professor, School of Psychology, Victoria Univ. of Wellington, New Zealand
Murray Gell-Mann, professor of physics, Santa Fe Institute; Nobel laureate
Thomas Gilovich, psychologist, Cornell Univ.
Wendy M. Grossman, writer; founder and first editor, *The Skeptic* magazine (UK)
Susan Haack, Cooper Senior Scholar in Arts and Sciences, professor of philosophy and professor of Law, Univ. of Miami
Harriet Hall*, MD, family physician; investigator, Puyallup, WA
C.E.M. Hansel, psychologist, Univ. of Wales
David J. Helfand, professor of astronomy, Columbia Univ.
Douglas R. Hofstadter, professor of human understanding and cognitive science, Indiana Univ.
Gerald Holton, Mallinckrodt Professor of Physics and professor of history of science, Harvard Univ.
Ray Hyman*, psychologist, Univ. of Oregon
Stuart D. Jordan, NASA astrophysicist emeritus; science advisor to Center for Inquiry Office of Public Policy, Washington, DC
Barry Karr, executive director, Committee for Skeptical Inquiry, Amherst, New York
Lawrence M. Krauss, foundation professor, School of Earth and Space Exploration and Physics Dept.; director, Origins Initiative, Arizona State Univ.
Harry Kroto, professor of chemistry and biochemistry, Florida State Univ.; Nobel laureate
Edwin C. Krupp, astronomer; director, Griffith Observatory, Los Angeles, CA
Lawrence Kusche, science writer
Leon Lederman, emeritus director, Fermilab; Nobel laureate in physics
Scott O. Lilienfeld*, psychologist, Emory Univ., Atlanta, GA
Lin Zixin, former editor, *Science and Technology Daily* (China)
Jere Lipps, Museum of Paleontology, Univ. of CA, Berkeley
Elizabeth Loftus*, professor of psychology, Univ. of CA, Irvine
David Marks, psychologist, City Univ., London
Mario Mendez-Acosta, journalist and science writer, Mexico City
Kenneth R. Miller, professor of biology, Brown Univ.
Marvin Minsky, professor of media arts and sciences, M.I.T.
David Morrison, space scientist, NASA Ames Research Center
Richard A. Muller, professor of physics, Univ. of CA, Berkeley
Joe Nickell, senior research fellow, CSI
Jan Willem Nienhuys, mathematician, Waalre, The Netherlands
Lee Nisbet, philosopher, Medaille College
Steven Novella*, MD, assistant professor of neurology, Yale Univ. School of Medicine
Bill Nye, science educator and television host, Nye Labs
James E. Oberg, science writer
Irmgard Oepen, professor of medicine (retired), Marburg, Germany
Loren Pankratz, psychologist, Oregon Health Sciences Univ.
Robert L. Park, professor of physics, Univ. of Maryland
Jay M. Pasachoff, Field Memorial Professor of Astronomy and director of the Hopkins Observatory, Williams College
John Paulos, mathematician, Temple Univ.
Massimo Pigliucci, professor of philosophy, City Univ. of New York—Lehman College
Steven Pinker, cognitive scientist, Harvard Univ.
Philip Plait, astronomer; lecturer; writer
Massimo Polidoro, science writer; author; executive director of CICAP, Italy
Anthony R. Pratkanis, professor of psychology, Univ. of CA, Santa Cruz
Benjamin Radford, investigator; research fellow, Committee for Skeptical Inquiry
James "The Amazing" Randi, magician; CSICOP founding member; founder, James Randi Educational Foundation
Milton Rosenberg, psychologist, Univ. of Chicago
Wallace Sampson, MD, clinical professor of medicine, Stanford Univ.; editor, *Scientific Review of Alternative Medicine*
Amardeo Sarma*, chairman, GWUP, Germany
Richard Saunders, vice president, Australian Skeptics; educator; investigator; podcaster; Sydney, Australia
Eugenie C. Scott*, physical anthropologist; executive director, National Center for Science Education
Robert Sheaffer, science writer
Elie A. Shneour, biochemist; author; president and research director, Biosystems Research Institute, La Jolla, CA
Seth Shostak, senior astronomer, SETI Institute, Mountain View, CA
Simon Singh, science writer; broadcaster; UK
Dick Smith, film producer; publisher; Terrey Hills, N.S.W., Australia
Keith E. Stanovich, cognitive psychologist; professor of human development and applied psychology, Univ. of Toronto
Robert Steiner, magician; author; El Cerrito, CA
Victor J. Stenger, emeritus professor of physics and astronomy, Univ. of Hawaii; adjunct professor of philosophy, Univ. of CO
Karen Stollznow*, linguist; skeptical investigator; writer; podcaster
Jill Cornell Tarter, astronomer, SETI Institute, Mountain View, CA
Carol Tavris, psychologist and author, Los Angeles, CA
David E. Thomas*, physicist and mathematician, Peralta, NM
Neil deGrasse Tyson, astrophysicist and director, Hayden Planetarium, New York City
Marilyn vos Savant, *Parade* magazine contributing editor
Steven Weinberg, professor of physics and astronomy, Univ. of Texas at Austin; Nobel laureate
E.O. Wilson, Univ. professor emeritus, organismic and evolutionary biology, Harvard Univ.
Richard Wiseman, psychologist, Univ. of Hertfordshire, England
Benjamin Wolozin*, professor, Department of Pharmacology, Boston Univ. School of Medicine
Marvin Zelen, statistician, Harvard Univ.

* Member, CSI Executive Council (Affiliations given for identification only.)

Skeptical Inquirer January/February 2013 | Vol. 37, No. 1

ARTICLES

34
It's the End of the World and They Don't Feel Fine
The Psychology of December 2012
MATTHEW J. SHARPS, SCHUYLER W. LIAO, AND MEGAN R. HERRERA

40
Indignation Is Not Righteous
GARY LONGSINE AND PETER BOGHOSSIAN

43
Monsters and Dragons and Dinosaurs, Oh My
Creationist Interpretations of *Beowulf*
EVE SIEBERT

49
Mystics, Mycobacterium, and the Gospel of Matthew
C.A. PORTER

52
The Secret Life of J. Allen Hynek
JOHN FRANCH

FORUM

32
The Math Behind the Myths
CHARLES F. COOPER

BOOK REVIEWS

The Return of Repressed-Memory Satanic Ritual Stories
DOUGLAS MESNER.....58

Twenty-Two Faces
by Judy Byington

Pretentious Whit
ROBERT SHEAFFER.....61

Solving the Communion Enigma: What Is to Come
by Whitley Strieber

OBITUARY

Science Journalist Leon Jaroff, Eighty-Five
STEVEN NOVELLA.....62

SPECIAL SECTION

PAUL KURTZ IN MEMORIAM
Paul Kurtz, Philosopher, Humanist Leader, and Founder of the Modern Skeptical Movement, Dies at Eighty-Six
TOM FLYNN.....5

Courage, Optimism, and Thinking Big: An Exuberant Life Well Lived.....11

The Modern Skeptical Movement Would Not Exist without Him
RAY HYMAN.....12

In Memory of a Most Remarkable Man
JAMES ALCOCK.....12

Farewell, Fellow Warrior
JAMES RANDI.....13

Exuberant Champion of the New Enlightenment
KENDRICK FRAZIER.....14

Paul Kurtz and the Virtue of Skepticism
MICHAEL SHERMER.....14

A Powerful and Thoughtful Voice for Skepticism and Humanism
STEVEN NOVELLA.....15

Book of Seasons: An Elegy, for Paul Kurtz
JOE NICKELL.....17

ADDITIONAL TRIBUTES FROM:
DANIEL C. DENNETT, AMARDEO SARMA, EDWARD TABASH, D.J. GROTHE, DANIEL LOXTON, CHRIS FRENCH

COLUMNS

FROM THE EDITOR
Can We Have Civilized Conversations about Touchy Science Policy Issues?.....4

INVESTIGATIVE FILES
Miracle Dirt of Chimayó
JOE NICKELL.....18

THINKING ABOUT SCIENCE
Physicists against Philosophers
MASSIMO PIGLIUCCI.....21

NOTES ON A STRANGE WORLD
Hitler's South Pole Hideaway
MASSIMO POLIDORO.....23

PSYCHIC VIBRATIONS
Smithsonian-Affiliated National Atomic Testing Museum Promised to Reveal 'UFO Secrets'
ROBERT SHEAFFER.....26

SCIENCE WATCH
Science Writers Gone Wild?
KENNETH W. KRAUSE.....29

SKEPTICAL INQUIREE
The Mysterious Bee Deaths
BENJAMIN RADFORD.....31

NEW AND NOTABLE.....59

LETTERS TO THE EDITOR.....63

THE LAST LAUGH.....66

Can We Have Civilized Conversations about Touchy Science Policy Issues?

Science is far more than the dispassionate search for truth about the natural world. We all know it *is* the best method ever invented for sifting the real from the unreal, the likely true from the probably not true, and superstition from reality. But it is also a powerful engine for social and technological change, and it impacts human culture and society massively along virtually every dimension.

Most scientists appreciate that science is not just for the inhabitants of ivory towers—if such even exist anymore—but an instrument for the improvement of human welfare. At least that's the goal, and certainly it is the reason for most public support of science. But the changes science and technology bring to the world are vast, and they can be uncomfortable, unsettling, and sometimes even unwelcome. Often the changes come before we are ready for them—before our caveman-era brains, smart and adaptable as we may be, can adjust.

So it is inevitable that in all the places that science and society interact, we encounter controversy and conflict. Sometimes vested interests and parts of the media revel in this and set off conflagrations of controversy and misunderstandings for their own ends and for the short-time amusement and superficial diversion of the masses. Other times—perhaps too few—high-minded, good-hearted, well-informed people can actually have serious and civilized and meaningful conversations and discussions about the substantive issues. This is an essential part of the democratic process, and it's one we've seen a little too little of in recent years.

CSICOP, our Committee for Skeptical Inquiry, and the SKEPTICAL INQUIRER have always experienced plenty of controversy. Given our mission (most simply, to "promote scientific inquiry, critical investigation, and the use of reason in examining controversial and extraordinary claims"), how could that not be so? For better or worse, we usually end up reporting that there is little or no scientific evidence for various cherished beliefs that anywhere from 30 to 90 percent of the people (not necessarily our readers) hold quite dearly! We don't shy from the inevitable controversy.

We always seek to be responsible and reasonable. We always try to focus on the evidence and issues, not personalities. We try to understand others' points of view. We repeatedly emphasize that scientific findings are open to revision with any good, new reliable evidence that passes scientific muster. This is one of the great, salient features of science! Uncertainties abound in all active research. Scientists are trained to deal with uncertainties, and that too is one of the crucial aspects of the scientific process. We appreciate this rather charming tentativeness of all new scientific research, but we also recognize that scientific uncertainty is sometimes over-emphasized, exaggerated, or exploited by partisans outside of science.

We recognize all these things. But there are lines we won't cross. Usually, the line is drawn where the best scientific evidence and understanding has become overwhelming—the outcome of countless years, decades, or sometimes even centuries of scientific inquiry and investigation—and where misrepresentations and distortions about the science are actively and purposely promoted. We must fight these kinds of intentional efforts to undermine our painstakingly obtained scientific understanding of the natural world and the creative scientific processes that led us to it.

We've found ourselves caught up in many of these public policy controversies in recent years: evolution/creationism and climate change are two of the main ones.

(Continued on page 25)

CSI Committee for Skeptical Inquiry

Committee for Skeptical Inquiry

"... promotes scientific inquiry, critical investigation, and the use of reason in examining controversial and extraordinary claims."

Skeptical Inquirer™

THE MAGAZINE FOR SCIENCE AND REASON

EDITOR Kendrick Frazier

EDITORIAL BOARD James E. Alcock, Harriet Hall, Ray Hyman, Scott O. Lilienfeld, Elizabeth Loftus, Joe Nickell, Steven Novella, Amardeo Sarma, Eugenie C. Scott, Karen Stollznow, David E. Thomas, Leonard Tramiel, Benjamin Wolozin

CONSULTING EDITORS Susan J. Blackmore, Kenneth L. Feder, Barry Karr, E.C. Krupp, David F. Marks, Jay M. Pasachoff, Richard Wiseman

CONTRIBUTING EDITORS Austin Dacey, D.J. Grothe, Harriet Hall, Kenneth W. Krause, Chris Mooney, David Morrison, James E. Oberg, Robert Sheaffer, Karen Stollznow

DEPUTY EDITOR Benjamin Radford

MANAGING EDITOR Julia Lavarnway

ART DIRECTOR Christopher Fix

PRODUCTION Paul E. Loynes

ASSISTANT EDITOR Sean Lachut

WEBMASTER Matthew Licata

PUBLISHER'S REPRESENTATIVE Barry Karr

CORPORATE COUNSEL Steven Fox, Brenton N. VerPloeg

BUSINESS MANAGER Patricia Beauchamp

FISCAL OFFICER Paul Paulin

SUBSCRIPTION DATA MANAGER Jacalyn Mohr

STAFF Melissa Braun, Cheryl Catania, Roe Giambrone, Anthony Santa Lucia, John Sullivan, Diane Tobin, Vance Vigrass

COMMUNICATIONS DIRECTOR Paul Fidalgo

INQUIRY MEDIA PRODUCTIONS Thomas Flynn

DIRECTOR OF LIBRARIES Timothy S. Binga

The SKEPTICAL INQUIRER is the official journal of the Committee for Skeptical Inquiry, an international organization.

The SKEPTICAL INQUIRER (ISSN 0194-6730) is published bimonthly by the Committee for Skeptical Inquiry, 3965 Rensch Road, Amherst, NY 14228. Printed in U.S.A. Periodicals postage paid at Buffalo, NY, and at additional mailing offices. Subscription prices: one year (six issues), $35; two years, $60; three years, $84; single issue, $4.95. Canadian and foreign orders: Payment in U.S. funds drawn on a U.S. bank must accompany orders; please add US$10 per year for shipping. Canadian and foreign customers are encouraged to use Visa or MasterCard. Canada Publications Mail Agreement No. 41153509. Return undeliverable Canadian addresses to: IMEX, P.O. Box 4332, Station Rd., Toronto, ON M5W 3J4.

Inquiries from the media and the public about the work of the Committee should be made to Barry Karr, Executive Director, CSI, P.O. Box 703, Amherst, NY 14226-0703. Tel.: 716-636-1425. Fax: 716-636-1733. Email: bkarr@centerforinquiry.net.

Manuscripts, letters, books for review, and editorial inquiries should be sent to Kendrick Frazier, Editor, SKEPTICAL INQUIRER, 944 Deer Drive NE, Albuquerque, NM 87122. Fax: 505-828-2080. EMAIL: kendrickfrazier@comcast.net. Before submitting any manuscript, please consult our updated and expanded Guide for Authors for styles, reference requirements, and submittal requirements. It is on our website in two formats at www.csicop.org/publications/guide.

Articles, reports, reviews, and letters published in the SKEPTICAL INQUIRER represent the views and work of individual authors. Their publication does not necessarily constitute an endorsement by CSI or its members unless so stated.

Copyright ©2012 by the Committee for Skeptical Inquiry. All rights reserved. The SKEPTICAL INQUIRER is available on 16mm microfilm, 35mm microfilm, and 105mm microfiche from University Microfilms International and is indexed in the Readers' Guide to Periodical Literature.

Subscriptions and changes of address should be addressed to: SKEPTICAL INQUIRER, P.O. Box 703, Amherst, NY 14226-0703. Or call toll-free 1-800-634-1610 (outside the U.S. call 716-636-1425). Old address as well as new are necessary for change of subscriber's address, with six weeks advance notice. SKEPTICAL INQUIRER subscribers may not speak on behalf of CSI or the SKEPTICAL INQUIRER.

Postmaster: Send changes of address to SKEPTICAL INQUIRER, P.O. Box 703, Amherst, NY 14226-0703.

Paul Kurtz, Philosopher, Humanist Leader, and Founder of the Modern Skeptical Movement, Dies at Eighty-Six

Tom Flynn

Paul Kurtz, founder and longtime chair of the Committee for Skeptical Inquiry, the Council for Secular Humanism, and the Center for Inquiry, died at the age of eighty-six on October 20, 2012. He was one of the most influential figures in the humanist and skeptical movements from the late 1960s through the first decade of the twenty-first century. Among his best-known creations are the skeptics' magazine Skeptical Inquirer, the secular humanist magazine *Free Inquiry*, and the independent publisher Prometheus Books.

Jonathan Kurtz, Paul's son, told SI that his father had a "'joyous' last day, joking, laughing, etc. He then died suddenly toward bedtime. There was no suffering." A joint CFI/CSI/CSH statement marked "with great sadness" the passing of their founder, offered condolences to the family, and called Kurtz "among the most significant and impactful figures in the humanist and skeptical movements. . . . We recommit ourselves to carrying on with determination the causes Kurtz helped bring to global prominence." A Memorial Celebration of the Life and Vision of Paul Kurtz was scheduled for December 1 at the University at Buffalo, jointly sponsored by the Philosophy Department and the Institute for Science and Human Values.

Early Life

Paul Kurtz was born on December 21, 1925, to Martin and Sarah Kurtz of Newark, New Jersey. He enrolled briefly at Washington Square College of New York University before enlisting in the U.S. Army at the height of World War II. He fought in the Battle of the Bulge and served in a unit that liberated the Dachau concentration camp. He was demobilized eighteen months after the war's end and resumed his studies at New York University (NYU).

At NYU Kurtz studied philosophy under Sidney Hook, who had himself been a protégé of the pragmatist philosopher John Dewey. The philosophy of Dewey and Hook, arguably the greatest American thinkers in the humanist tradition, would deeply influence Kurtz's thought and activism. Kurtz graduated from NYU in 1948 and earned his PhD in philosophy at Columbia University in 1952.

Academic Career

Kurtz taught philosophy at Trinity College from 1952 to 1959. He joined the faculty at Union College from 1961 to 1965; during this period he was also a visiting lecturer at the New School for Social Research. In 1965 he was recruited by the new State University of New York at Buffalo. The former University of Buffalo had recently been absorbed into the state university system; under Governor Nelson Rockefeller, the institution launched an aggressive program to recruit top young academics to its faculty. Kurtz became professor of philosophy at SUNY Buffalo, a post he held until his retirement from teaching in 1991. At this stage of his career, Kurtz focused principally on methods of objective inquiry and the history of American philosophy. He contributed the significant entry "American Philosophy" to the influential first edition of the *Encyclopedia of Philosophy* (1967), edited by Paul Edwards. He edited two large anthologies of American philosophy and published his best-known scholarly work, *Decision and the Condition of Man* (1968).

The Humanist Movement

It was in the late 1960s that Kurtz embarked on the pursuit whose prominence would exceed even that of his career as a philosopher, when he began his involvement with the humanist movement. In 1967 he was named editor of *The Humanist*, published by the American Humanist Association (AHA), then the nation's only significant humanist organization. He took the magazine in new directions, both by making its content more sharply critical of religion and by using aggressive techniques to expand its circulation. Arguably, *The Humanist* never enjoyed greater cultural prominence or higher circulation than during Kurtz's editorship, but his forceful style led to friction with others within AHA, including some members of its board of directors. Kurtz gave up editorship of *The Humanist* and parted ways with AHA in 1978. Ironically, that was the very year in which, owing to Kurtz's influence, AHA moved its headquarters from San Francisco to Amherst, New York, the location of SUNY Buffalo's suburban campus. (AHA would remain headquartered off Harlem Road in Amherst until it moved to Washington, DC, in 2000.)

Kurtz was for more than a quarter-century an influential figure in the In-

ternational Humanist and Ethical Union (IHEU), a worldwide network of national humanist organizations founded in Amsterdam in 1952. He joined IHEU's board of directors in 1969 and served as the organization's cochairman from 1986 to 1994. During this period, Kurtz hosted IHEU's Tenth World Congress, held at SUNY Buffalo during the summer of 1988.

The Kurtz-Founded Organizations

Kurtz would be better known for his work through organizations he founded and shaped from their inception.

In 1969, he founded Prometheus Books, a for-profit publishing company that quickly emerged as the dominant imprint in skepticism, humanism, and atheism. It would become the most prolific publisher of atheist and humanist titles in history. Since its founding it has published more than 2,500 titles in what has become a broad range of genres. Significant milestones included the 1998 acquisition of most of the assets of the scholarly publisher Humanities Press International, giving rise to Prometheus's imprint Humanity Books, and the formation in 2005 of its Pyr division, which has emerged as a prestige imprint for science fiction and fantasy fiction. Now led by Paul Kurtz's son Jonathan, the most impressive achievement of Prometheus Books may be that it has retained its independence during five decades in which an enormous number of independent publishers closed down or were absorbed.

Paul Kurtz was perhaps best known for the three mutually supportive nonprofit organizations he founded in Buffalo and later Amherst, New York, now known as the Committee for Skeptical Inquiry, the Council for Secular Humanism, and the Center for Inquiry.

Kurtz would be better known for his work through organizations he founded and shaped from their inception.

Kurtz demonstrates to media how to fake a flying telephone "poltergeist." This was in conjunction with the famous Columbus Poltergeist Case debunked in SI by James Randi (Spring 1985).

Kurtz and others founded the world's first organization devoted solely to scientific criticism of paranormal claims at an April 1976 conference at SUNY Buffalo whose participants included author Isaac Asimov, author-mathematician Martin Gardner, and magician James Randi. The organization was originally known as the Committee for the Scientific Investigation of Claims of the Paranormal and became widely known by its acronym, CSICOP. Several months after its formation, CSICOP launched a journal, *The Zetetic*, which later achieved great prominence as the SKEPTICAL INQUIRER, which continues to be published bimonthly. During its early years, CSICOP encouraged the formation of local skeptics groups across the United States, and of independent national skeptics organizations across the world. These groups would form the kernel of today's international skeptical movement. In 2006, the organization shortened its name to the Committee for Skeptical Inquiry, partly to show that its concerns now extended beyond its original focus on paranormal claims to include the public understanding of science and issues in medicine and mental health.

In 1980, two years after his departure from the American Humanist Association, Kurtz launched a new, more explicitly nonreligious humanist organization, the Council for Democratic and Secular Humanism (CODESH). The word "Democratic" was added to demonstrate the group's opposition to Communist totalitarianism, an important consideration since nontheism was then strongly associated with Communism in the public mind. The new organization's first act was to release *A Secular Humanist Declaration*, a position document originally signed by fifty-seven distinguished activists and academics. Its release was covered in a front-page story in the *New York Times*. The Council simultaneously launched a journal, *Free Inquiry*, with Kurtz as its publisher and founding editor. *Free Inquiry* quickly became the best-respected and highest-circulation humanist magazine in the

U.S. It continues to be published bimonthly.

In 1996, in response to the collapse of European Communism, the organization shortened its name to the Council for Secular Humanism. It maintains a network of independent local groups, operates North America's only freethought museum, and engages in a variety of educational and advocacy activities. Since 2007, the Council has been lead plaintiff in a lawsuit that challenges contracts between the state of Florida and explicitly religious social service providers.

In 1991, Kurtz's skeptical and secular humanist organizations relocated from Buffalo to Amherst, New York. In the same year Kurtz founded a third major nonprofit organization, the Center for Inquiry. Originally conceived as a platform for consolidating activities that CSICOP and CODESH conducted in parallel, from magazine production to payroll, the Center grew into an advocacy organization in its own right. Its agenda encompassed both CSICOP's skepticism and CODESH's secular humanism, placing both in a broader cultural and intellectual context. In addition to the Center for Inquiry headquarters campus in Amherst, which Kurtz expanded to some 35,000 square feet, there were at various times more than fifty branch Centers for Inquiry operated in other American cities and across the world, employing a variety of operating models. From its transnational headquarters at Amherst, the Center conducts a wide range of educational programs, including an online master's degree program in conjunction with the University at Buffalo. Its research libraries hold the world's largest collections of humanist, skeptical, and related literature.

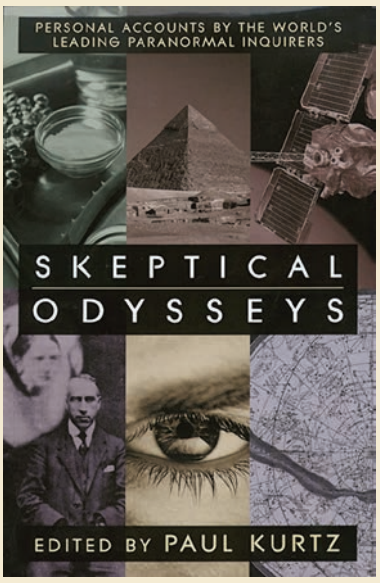
Awards and Recognitions

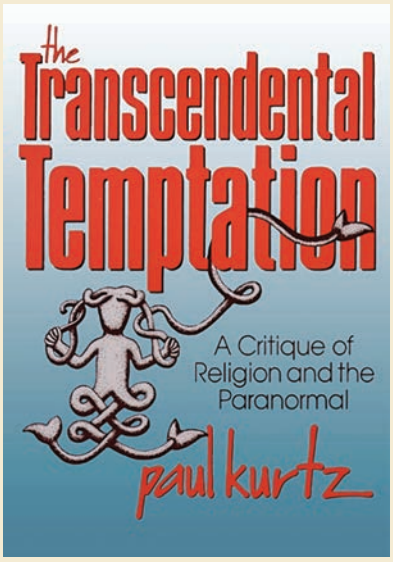
Paul Kurtz received numerous awards and other encomia. In 1992, he was named a fellow of the American Association for the Advancement of Science. In 1996, the main-belt asteroid Kurtz 6629 was named in his honor. In 2000, he received the International Rationalist Award at the Second International Rationalist Conference at Trivandrum, India. In 2001, he received the Charles P. Norton Medal, the highest award bestowed by the State University of New York at Buffalo. In 2009, he received the Eupraxsopher Award, a special lifetime achievement award, from the Center for Inquiry, as well as the Philip J. Klass Award from the National Capital Area Skeptics. In 2010, he received a lifetime achievement award at The Amazing Meeting (TAM) sponsored by the James Randi Educational Foundation.

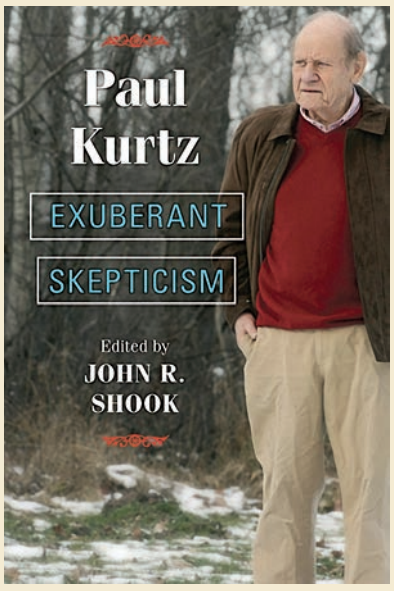
Publications

Paul Kurtz wrote or edited more than fifty books for scholarly or general audiences. Among the better-known are *Exuberance: A Philosophy of Happiness* (1977), *Forbidden Fruit: The Ethics of Humanism* (1988), *Eupraxophy: Living without Religion* (1989), *The Transcendental Temptation: A Critique of Religion and the Paranormal* (1991), *The New Skepticism: Inquiry and Reliable Knowledge* (1992), and *What Is Secular Humanism?* (2006). His works have been translated into multiple languages. He composed a great number of essays, including editorials that appeared in every issue of *Free Inquiry* magazine from its founding in 1980 until 2009.

Kurtz was also organized humanism's most prolific composer of position documents. When he joined the humanist movement, it was still strongly influenced by the *Humanist Manifesto* of 1933. Drafted and signed by Unitarian ministers (with the conspicuous exception of signer John Dewey), the original *Manifesto* explicitly envisioned humanism as a new religion. On Kurtz's view, a more secular formulation was needed. As editor of *The Humanist* he led a campaign for a new and more relevant Manifesto. *Humanist Manifesto II* was published in 1973, having been co-drafted by Kurtz and fellow humanist leader Edwin H. Wilson. Where its predecessor was re-







In 1988, Paul Kurtz led CSICOP's first study visit to China.

Kurtz consistently asserted that morality should be rooted in human flourishing and happiness, not in supernatural revelation.

ligious, *Manifesto II* explicitly abjured religiosity. In a passage reflecting Kurtz's writing style, it declared: "Some humanists believe we should reinterpret traditional religions and reinvest them with meanings appropriate to the current situation. Such redefinitions . . . perpetuate old dependencies and escapisms; they easily become obscurantist, impeding the free use of the intellect. We need, instead, radically new human purposes and goals."

Manifesto II was signed by 114 activists and thought leaders at first publication, and would eventually attract 261 distinguished signers. Its release garnered worldwide media attention, including a front-page story in the *New York Times*.

The previously mentioned *A Secular Humanist Declaration* (1980) was drafted solely by Kurtz. It offered a secular humanist interpretation of many of the ideas developed in *Manifesto II* but steeped in the recognition that an unquestionably nonreligious humanist institution needed to be created, close to but slightly outside of a larger humanist movement that included both religious and nonreligious humanists.

In the late 1990s, Kurtz began to compose a new successor document. Originally he planned to title it *Humanist Manifesto III*, asserting the right to do so as the sole living coauthor of *Manifesto II*. After the American Humanist Association asserted ownership of the *Manifesto* title and threatened legal action, Kurtz retitled his document *Humanist Manifesto 2000*.

Humanist Manifesto 2000: A Call for a New Planetary Humanism was issued in 1999 with about 200 signatures. It was book-length, far lengthier than the previous *Manifestos*, and represented the fullest statement of Kurtz's vision for humanism as a planetary commitment transcending national and ethnic identities. Besides challenging religion and championing the scientific outlook and freedom of thought, Kurtz called for a popularly elected global parliament, a World Court, a global environmental monitoring institution, and a new international tax to aid the developing world. These internationalist contentions engendered substantial controversy within the humanist movement.

Principal Contentions

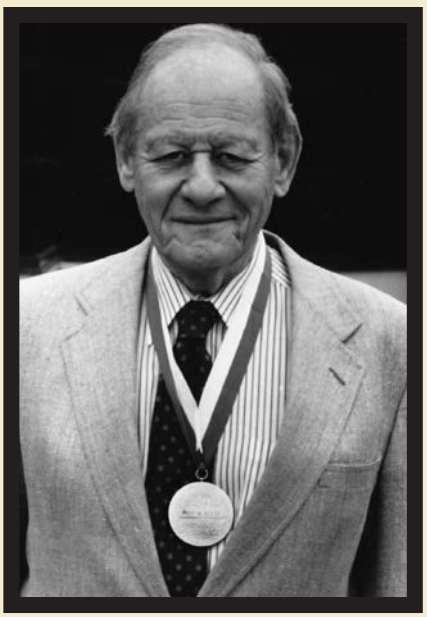
Kurtz consistently asserted that morality should be rooted in human flourishing and happiness, not in supernatural revelation. He attached high priority to individual liberty in a robustly democratic culture. His ethics were primarily utilitarian, but he tempered his utilitarianism with a strong commitment to basic liberties. As early as 1969 he had written that "there are two basic and minimal principles which especially seem to characterize humanism. First, there is a rejection of any supernatural conception of the universe and a denial that man has any privileged place within nature. Second, there is an affirmation that ethical values are human and have no meaning independent of human experience." Repeatedly he characterized secular humanism less as a set of moral or philosophical prescriptions than as a process, a template for the conduct of ethical inquiry.

Two further contentions strongly influenced Kurtz's thought and writing beginning in the mid-1980s. The first was his growing sense of humanism as necessarily planetary. He argued that since the principal problems confronting humankind were global in scope, they required transnational solutions. This view was accompanied by an assertive cosmopolitanism that viewed

traditional religious, ethnic, and national identities as archaisms to be jettisoned whenever possible.

In addition, he sought an authoritative answer to the question "If secular humanism is not a religion, what is it?" His solution was to coin a new word, *eupraxophy* (in later years spelled *eupraxsophy*). Formed from Greek roots meaning roughly "good wisdom and practice in conduct," the word was meant to label a novel category of intellectual and moral systems that met some of the social needs served by religions without the supernaturalism or authoritarianism of traditional faiths. Kurtz made his most extended argument for the coinage in his 1989 book *Eupraxophy: Living without Religion*. A subsequent edition was titled *Living without Religion: Eupraxsophy*. The neologism's move from title to subtitle reflected the coinage's fate. Kurtz's arguments for eupraxsophy were received respectfully, and some activists eagerly restyled themselves "eupraxsophers." Ultimately, however, the term failed to maintain traction and it is infrequently used in the movement today.

Paul Kurtz meets with Soviet dissident and 1975 Nobel Peace Prize recipient Andrei Sakharov in New York City in 1988.



Paul Kurtz recieved the Charles P. Norton Medal, the highest honor bestowed by the University at Buffalo, in 2001.

Later Life

While Kurtz's son Jonathan had succeeded him as president of Prometheus Books, Kurtz continued to exercise day-to-day control of the nonprofit organizations he had founded well past his eightieth birthday. After 2005, there was heightened concern on the part of the organizations' directors to implement a specific succession process. In June 2008, attorney and philosopher Ronald A. Lindsay succeeded Kurtz as president and CEO of the Center for Inquiry, the Council for Secular Humanism, and the Committee for Skeptical Inquiry. Lindsay was Kurtz's personal selection for the position. Kurtz continued to serve as board chair until June 2009, when Buffalo investment advisor Richard Schroeder was elected Chair and Kurtz assumed the new position of Chair Emeritus. Kurtz faced this process with increasing reluctance, and on May 18, 2010, he announced his resignation from all of his remaining positions at the three nonprofit organizations. His office continued to be reserved for his use whenever the Center for Inquiry–Transnational in Amherst was open.

Late in 2010, Kurtz announced the founding of a new organization, the Institute for Science and Human Values. It released a manifesto-style document titled *Neo-Humanist Statement of Secular Principles and Values* with more than 150 signers and announced a new quarterly journal, *The Human Prospect*.

Conclusion

Ultimately, Paul Kurtz did much to shape the American and world humanist movements during the final third of the twentieth century. He was a prodigious organizer, responsible for much of the social landscape through which nonreligious Americans moved before the emergence of the so-called New Atheist movement in the middle 2000s. At the same time, a vibrant and varied skeptics' community now served by dozens of local and national organizations might not exist at all—and surely would not have its current form—if not for Kurtz's founding of the first modern skeptical organization, CSICOP. His most enduring legacy may be the Center for Inquiry, which continues to stand as the larger movement's largest, most active, and highest-budgeted organization. ■

—Tom Flynn is the editor of FREE INQUIRY *magazine and the executive director of the Council for Secular Humanism.*

"It is error only, and not truth, that shrinks from inquiry."
– Thomas Paine

3 FOR TOMORROW

You Are Invited to Join the Center for Inquiry to **Act, Combat,** and **Promote...**

Since 1976, three remarkable organizations have been at the forefront of efforts to promote and defend critical thinking and freedom of inquiry. The **Committee for Skeptical Inquiry** (founded in 1976), the **Council for Secular Humanism** (1980), and the **Center for Inquiry** (1991) have advocated, championed, and, when necessary, defended the freedom to inquire—while demonstrating how the fruits of objective inquiry can be used to understand reality, refute false beliefs, and achieve results that benefit humanity.

In many ways, our organizations have been ahead of their time. Now, they are truly **3 For Tomorrow**. Through education, advocacy, publishing, legal activism, and their network of regional branches, CFI and its affiliate organizations continue to provide support for everyone who seeks a better life—in this life—for all.

CSI Fellow and SKEPTICAL INQUIRER Editorial Board Member James Alcock leads a class at a Skeptics' Toolbox event. The Toolbox has been held every year, except once, since 1992.

Your Help Is a Necessity!

Each year, magazine subscriptions fund a smaller percentage of this work, even as the need for activism increases and the population we serve grows.

More than ever, CFI and its affiliates depend on the generosity of our supporters both **to fund daily operations** and **to build capital for the future.**

Your support today can protect tomorrow for us all. Your generous gift can perpetuate our work toward the kind of world you—and your grandchildren—can feel proud to live in.

ACT, COMBAT, and PROMOTE

We are currently focused on three goals central to our core objectives:

- **Act to end the stigma attached to being nonreligious.**
- **Combat religion's privileges and its influence on public policy.**
- **Promote science-based skepticism and critical thinking.**

Make your most generous gift today, or request information on planned giving or a bequest.

For more information, return the attached card or contact us at:

Center for Inquiry
Development Office
P.O. Box 741
Amherst, NY 14226
1-800-818-7071
development@centerforinquiry.net
website: www.centerforinquiry.net

Courage, Optimism, and Thinking Big: An Exuberant Life Well Lived

At the Center for Inquiry's 12th World Congress, Bethesda, Maryland, April 9–12, 2009, Paul Kurtz was honored for his lifetime contributions as founder and leader of CFI. On learning of the forthcoming honor, Kurtz asked that ***Kendrick Frazier****, Editor of the* SKEPTICAL INQUIRER *and a member of both the CFI and Committee for Skeptical Inquiry boards, be the one to present him the award. Here are Frazier's remarks:*

We would not be here today if not for Paul Kurtz.

There would be no Center for Inquiry World Congress.

There would be no CFI.

There would be no Council for Secular Humanism.

There would be no Committee for Skeptical Inquiry.

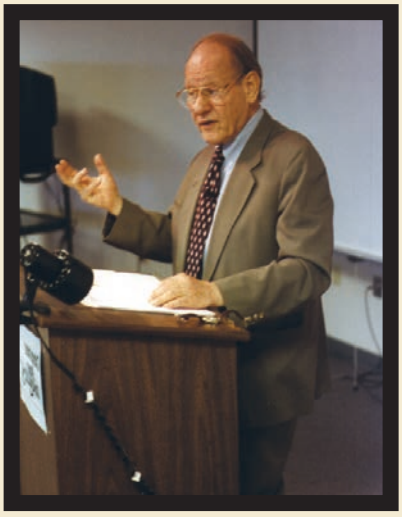
There would be no modern complex of buildings housing these enterprises in Amherst, New York, across from the State University of New York at Buffalo.

There would be no network of CFI regional centers in this country and worldwide.

There would be no network of local, regional, and national skeptics groups.

Like all of us here, I have enormous admiration, respect, and affection for Paul. It has been my privilege to have worked closely with you, Paul, for nearly a third of a century. He is, truly, one of the world's extraordinary persons. (If he really is a single person. For all he does and all he has accomplished, many of us have long suspected he must be at least three different people all wrapped up into one human body. Maybe we at the SKEPTICAL INQUIRER should look into this phenomenon more carefully.)

- A professor of philosophy, a scholar, and an intellectual yet very pragmatic philosopher, who writes about not arcane academic disputes but how life should best be lived, taught thirty years at SUNY Buffalo, and retired to emeritus status with great distinction.



- Author or editor of well over thirty books, with more under way. To mention just a few I have on my own shelves: *The Transcendental Temptation*, *The New Skepticism*, *Skeptical Odysseys*, *Embracing the Power of Humanism*, *The Courage to Become: The Virtues of Humanism*, *Forbidden Fruit: The Ethics of Humanism*, and my favorite title of all: *Exuberance: A Philosophy of Happiness.*
- An entrepreneur who creates and runs organizations, international organizations, movements, really. Nonprofit organizations, many of them (including those I've mentioned), and a noted book publishing company (Prometheus Books). A philosopher/entrepreneur! Who would have imagined!
- An international diplomat. That's another way I think of him. With his internationalist perspective and his drive to bring diverse people from all over the world together to work toward common causes.
- An inspiring leader who has extraordinary vision—always focused on big goals, big tasks, big ideas.
- The father and great philosopher of the modern secular humanism movement, and certainly a father of the modern movement for open-minded, affirmative scientific skepticism. See his Humanist Manifestos, and his Affirmations of Humanism and his Affirmations of the New Skepticism. One small sentence from the latter: "We ask for facts, not suppositions; experimental evidence, not anecdotal hearsay or conjecture; logical inference and deduction, not faith or intuition."

Of all his many qualities, I want to emphasize two. They are related.

Courage and an *extraordinarily positive outlook*. When others think small, he thinks big. When others dither, he says *do*. When others would retract, he would expand. Where others see problems, he sees opportunity. He stresses not negativism but the affirming values of humanism and of skepticism.

He believes strongly in (to borrow his own words from his latest essay in *Free Inquiry*), "a set of common moral virtues that cut across cultures—such as being truthful, honest, kind, keeping promises, being dependable and responsible, avoiding cruelty, etc." He has lived life to its fullest, with exuberance and extraordinary service to others. By elucidating, living, and advancing strong missions, ethical credos, and causes greater than ourselves, he inspires us all to try somehow to do the same.

Some years back Paul coined a new term, *eupraxophy*, from the Greek roots for good/well, conduct/practice, and scientific and philosophic wisdom. He defines *eupraxophy* as "a set of convictions and practices offering a cosmic outlook and an ethical guide to life."

And, not surprisingly, he wrote a book by the same title.

For his extraordinary leadership to the causes of humanism and scientific skepticism, his lifetime of accomplishment, and his moral and ethical guidance, I am pleased and honored to present to Paul this very special award, **The Eupraxopher Award**.

The Modern Skeptical Movement Would Not Exist without Him

Ray Hyman

The first meeting of the CSICOP Executive Council, in New York City in August 1977. Paul Kurtz is at head of the table.

The passing of Paul Kurtz represents a major blow to the skeptical movement. Without Paul Kurtz, the modern skeptical movement, which began with the founding of CSI (originally known as CSICOP), would not exist.

In 1973, soon after both he and I had encountered Uri Geller, James Randi met with me in Portland, Oregon, to suggest we create a skeptical organization to counter the fraudulent claims and the exploitation of scientists by alleged psychics such as Geller. He suggested we use the acronym SIR (Sanity in Research) for the name of our organization. The letters SIR were an anagram of SRI (Stanford Research Institute), where Geller had been investigated. We also included Martin Gardner in our group. Although Gardner, Randi, and I spent a day formulating the plans and objectives for our group, none of us had organizational or administrative experience. So when Marcello Truzzi asked to join our group with an offer to help with organizational and administrative matters, we readily agreed. Soon afterwards, Truzzi encountered Paul Kurtz at a conference. At this time, Kurtz, as editor of the *Humanist* magazine, had been waging a campaign against fraudulent paranormal claims. Kurtz and Truzzi decided that Paul and his colleagues should join SIR to form a national skeptical organization. Although Truzzi did not consult Gardner, Randi, or me in making this decision, we agreed to the partnership.

In 1976, Randi, Gardner, and I joined Marcello and Paul Kurtz—along with a few others such as Phil Klass, Jim Alcock—to create CSI (originally known as CSICOP). At first, Paul Kurtz and Marcello Truzzi served as co-chairs. However, before our first meeting after the organizational one, a serious division of opinion on the function and goals of CSICOP became evident. Truzzi wanted our journal, then called *The Zetetic*, to be a scholarly publication aimed at academics. Paul and the other Executive Council members wanted the journal also to serve the general public. An even more contentious issue was Truzzi's insistence that skeptical and pro-paranormal proponents be given equal space in our journal. Paul and the other Executive Council members rejected this proposal. We argued that the paranormalists already had several publications and media outlets. At the time of CSICOP's initiation, there were no outlets for the skeptical viewpoint. As a result of these disagreements, Truzzi resigned from CSICOP to pursue his own vision for a "skeptical" journal.

Under the leadership of Paul Kurtz, CSICOP grew and inspired new skeptical groups, both on the local and the international scenes. Paul was the right person at the right time. I believe that without Paul, we would not have had a successful skeptical movement. Although he was an academic and a philosopher, he defied the stereotypes for these occupations and was an extraordinary organizer, leader, and entrepreneur. Rarely, if ever, does one encounter the collection of abilities in one person that Paul Kurtz possessed. Paul was a scholar, philosopher, prolific author, editor, successful publisher, organizer, leader, and tireless advocate for the truth. He was truly unique.

—Ray Hyman is professor emeritus of psychology, University of Oregon, and a founding member of the Committee for Skeptical Inquiry's Executive Council.

In Memory of a Most Remarkable Man

James Alcock

I first met Paul in 1976 at the meeting at the University of Buffalo that launched CSICOP, and from the get-go I was amazed by his energy, his enthusiasm, and his determination to do something to stem the rising tide of pseudoscience. A few years later, as a member of the Executive Council, I had the privileged opportunity to observe his dynamism at close range. One thing that stands large in my memory is how he never seemed to slow down. For example, in an era before cellular telephones, going to a restaurant with Paul meant a number of interruptions while he made trips to the nearest pay telephone to conduct various bits of pressing business, much of

which had to do with building the skeptical movement.

He was a man with a purpose, determined to stand up for reason, to fight pseudoscience, and to challenge religious dogma. He dedicated himself to that goal, and through his many books, articles, and public lectures, he urged all who would listen to find strength and purpose in our humanness rather than seeking succor through supernatural supplication.

He was a builder. He gathered people around him who were experts in all manner of things, but it was his rare ability to organize, harness, and disseminate such expertise that created the skeptical movement that we have today. He dreamed large, and he worked tirelessly to make those dreams come true. I recall a meeting of the CSICOP Executive Council many years ago when Paul announced that CSICOP needed its own building. He had a site in mind: a small parcel of land bordering on the University of Buffalo. Yes, wouldn't that be nice, we thought, but dream on, shall we? And in technicolor, for CSICOP was all but penniless. That did not deter Paul; it still astonishes me that he was able to raise the necessary funds, supervise the purchase of the property, and oversee the design and construction of the building, until *voila!*—CSICOP was headquartered in a modern and permanent home. And that was just the beginning. Through his determination and stewardship, the skeptical movement took shape around the world.

On a personal level, I shall miss Paul for his friendship and inspiration. A man of high ideals, boundless energy, kindness, dignity, and grace, Paul has left the world a better place than he found it, and for that, all who value reason need be grateful.

—James Alcock is professor of psychology, Glendon College, York University, Toronto, and a longtime member of the Committee for Skeptical Inquiry Executive Council.

Farewell, Fellow Warrior

JAMES RANDI

James Randi at lower left and Kurtz at right during CSICOP China trip in 1988.

Paul Kurtz was such a good friend for so many years. . . . When Ray Hyman, Martin Gardner, and I got concerned about rising uncritical acceptance of paranormal nonsense in the 1970s, we had no experience in creating a useful group to counter that stuff. Then Paul Kurtz came along, with similar concerns and his own plans to create just such an organization, and we and many others quickly joined together in that collaborative cause, forming CSICOP in 1976. Paul came with the credentials, the zeal, and the work ethic that served us all so well for thirty-plus years.

Along with my colleagues in the community of skeptics and rationalists, I will deeply miss Paul and our frequent exchanges over those decades. When our small group first met in the 1970s to start the organized skeptics movement, little could we have predicted its worldwide growth under his guidance. Yes, we largely have Paul's genius to thank for that. We didn't always see eye-to-eye, it's true, but I always admired his vision. His passing has saddened us all, while we celebrate his participation with us.

He was a man with a purpose, determined to stand up for reason, to fight pseudoscience, and to challenge religious dogma.

This noble man served CSICOP without receiving remuneration, but I know that he was greatly satisfied with his accomplishment in so many ways. His essays, his books, his speeches, and his in-person appearances fortified us all and made us better equipped to wage The Battle. . . .

Hail and farewell, my fellow-warrior. Neither of us believed in an afterlife, but your presence among us will live on. . . .

—James Randi, a founding Fellow of CSI, is founder of the James Randi Educational Foundation.

Exuberant Champion of the New Enlightenment

KENDRICK FRAZIER

A young CSICOP chairman Paul Kurtz, lower right, watches a younger Ken Frazier, then still editor of *Science News* but about to become editor of SI, speak at first CSICOP meeting in August 1977 in New York City.

Paul Kurtz had a broad and clear vision for a return to Enlightenment values—reason, scientific thinking, and reliance on human thought, not authority or supernaturalism, for our ethical values and responsibilities to each other. He was a tireless and outspoken champion of both the scientific outlook and secular humanism. He brought a coherent, affirmative worldview to disparate people working on different aspects of these issues. Nonreligious himself, his brand of atheism was informed by science and always gentle and thoughtful, never militant or aggressive. He always emphasized the positive.

By his own example of thoughtful philosophical discourse and open-minded critical inquiry and by the caliber of scientists, scholars, and thinkers he attracted, he brought instant respectability to the modern skeptical movement he founded. He was an organizational genius. He could bring people together and create and nurture new organizations with seeming ease. He had an internationalist—he saw it as a *planetary*—view that inspired similar thinking people in countries around the globe.

From the beginning he was deeply knowledgeable about, and directly involved in, scientific-based skeptical inquiry. This energized our committee and SI as well.

He had more energy and enthusiasm than three people. His output of writing was prodigious. He was overwhelmingly positive and optimistic. And courageous. And something else—exuberant. It was such a pleasure to be his colleague.

Paul was my mentor and my friend. He brought me into CSICOP (now CSI). He strongly supported me and SI. He granted us editorial autonomy, publicly. When controversy came, as it often did, he always encouraged me. He felt that if you are not creating some controversy, you are not doing things right. And he practiced his own humanist values. He was kind to me and my family in ways no one will ever know.

Paul Kurtz, beyond all his extraordinary professional accomplishments as leader of the New Enlightenment, was that rare exemplary person you want all your best friends to meet and to know.

—Kendrick Frazier is editor of the SKEPTICAL INQUIRER and a member of the CSI Executive Council.

Paul Kurtz and the Virtue of Skepticism

MICHAEL SHERMER

The word *skeptic* comes from the Greek *skeptikos*, for "thoughtful"—far from modern misconceptions of the word as meaning "cynical" or "nihilistic." According to the *Oxford English Dictionary*, "skeptical" has also been used to mean "inquiring," "reflective," and, with variations in the ancient Greek, "watchman" or "mark to aim at." What a glorious meaning for what we do! We are thoughtful, inquiring, and reflective, and in a way we are the watchmen who guard against bad ideas, consumer advocates for good thinking who, through the guidelines of science, establish a mark at which to aim. Paul Kurtz was one of the founders of the modern skeptical movement, and he embodied the principle of skepticism as thoughtful inquiry. He truly was a watchman who provided a mark at which we skeptics may all aim.

Paul Kurtz will now take his place among the great thinkers in the Enlightenment tradition, alongside such minds as Voltaire, Diderot, Rousseau, Locke, Jefferson, Kant, and Hume. Although there has been some debate (and much quibbling) about who gets what amount of credit for the founding of the modern skeptical movement, everyone I have spoken to (including the other founders) agrees that it was Paul Kurtz more than anyone else who actually made it happen. All successful social movements have someone who has the organizational skills and social intelligence to get things done. Paul Kurtz was that man. For twenty years now I have been at the head of the

A Powerful and Thoughtful Voice for Skepticism and Humanism

Steven Novella

Paul Kurtz was a philosopher who dedicated the better part of his life and career to promoting science, reason, and humanist values. He was one of the founders of the modern skeptical movement—someone who was there at the beginning. Kurtz had something that the others did not—the ability to organize a movement. Other giants, like James Randi, Ray Hyman, and Martin Gardner, got together and knew that the world needed a dose of reason. Kurtz had the skills to make that happen.

He founded two "sister" organizations, the Council for Secular Humanism and the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP, now CSI—the Committee for Skeptical Inquiry). Regarding secular humanism, he took the existing humanist philosophy and essentially purged it of supernatural fluff to craft it into secular humanism. This he presented as a philosophical alternative to supernatural-based religions. He made a powerful philosophical argument that one could lead a moral life without any appeal to a supernatural belief system.

Meanwhile, CSI focused on promoting science and reason, mainly through confronting popular pseudoscience. When I joined the skeptical movement in 1996 CSI was pretty much the only game in town. Michael Shermer was just getting started with the Skeptics Society, but that was never a membership organization and was largely West Coast based. The James Randi Educational Foundation had not yet been founded. So as the organizer of a local group, CSI was the only national organization to reach out to, and they were definitely helpful in getting us off the ground. Kurtz also founded Prometheus Books and the Skeptical Inquirer (the official publication of CSI).

I remember meeting Paul Kurtz for the first time. He was very interested in who I was and what I was doing in my local group. He had a clear passion for promoting rationalism. I was also struck, however, by how closely tied secular humanism and skepticism were in his approach. This would ultimately cause some tension between CSI and the local groups, a tension that exists to this day within the skeptical movement. In his later years Kurtz would also have to deal with another internal tension—that between the aggressive "new atheists" and the softer approach that Kurtz advocated.

Despite these internal conflicts, Kurtz remained active until the very end. I saw him for the last time at last year's Amazing Meeting. He was still engaged and very interested in the future of the movement he helped to create. As late as 2010 he was still trying to put his stamp on humanist thinking. He published his *Neo-Humanist Statement of Secular Values and Principles*, in which he lays out what he thinks is the path forward for secular humanism.

No matter where you stand with respect to the philosophical debates regarding the nature of humanism and skepticism, Kurtz was a powerful and thoughtful voice who always pushed the discussion forward.

—Steven Novella is president of the New England Skeptical Society, professor of neurology at Yale University School of Medicine, and a member of the CSI Executive Council.

Skeptics Society and *Skeptic* magazine, and as such I have come to respect more than ever before what Paul Kurtz did for our movement. In terms of the day-to-day grind of keeping a movement afloat through the constant battering and assaults that come from variegated sources, there are few that can be compared with Paul Kurtz. So I close this brief remembrance with my favorite passage from what I consider to be Kurtz's finest work, *The Transcendental Temptation*, which should be mandatory reading for all skeptics and humanists:

> The skeptic is not passionately intent on converting mankind to his or her point of view and surely is not interested in imposing it on others, though he may be deeply concerned with raising the level of education and critical inquiry in society. Still, if there are any lessons to be learned from history, it is that we should be skeptical of all points of view, including those of the skeptics. No one is infallible, and no one can claim a monopoly on truth or virtue. It would be contradictory for skepticism to seek to translate itself into a new faith. One must view with caution the promises of any new secular priest who might emerge promising a brave new world—if only his path to clarity and truth is followed. Perhaps the best we can hope for is to temper the intemperate and to tame the perverse temptation that lurks within.

R.I.P. Paul Kurtz. We all owe you a great debt of gratitude for making the world a better place. You will be missed.

—Michael Shermer is publisher and editor-in-chief, Skeptic *magazine.*

He Saw Before Others

Daniel C. Dennett

Paul Kurtz led the way for years. When Richard Dawkins, Christopher Hitchens, Sam Harris, and I woke up and turned our time and energy to resisting the encroachments of the religious right on the civil liberties of us all, we found Paul Kurtz already happily marching along, leading the charge, as he had been doing for years. He graciously welcomed us—and many others—to the project, and was a tireless organizer and expediter of all sorts of activities. He saw, before many others, that these were issues worth devoting your life to, and that is what he did. We owe a great debt of gratitude to his vision and energy.

—Daniel Dennett is professor of philosophy and co-director of the Center for Cognitive Studies at Tufts University.

A Seamless Enterprise

Edward Tabash

We mourn the loss of our true founder, Paul Kurtz. It's a daunting task to single out any of his myriad accomplishments for special attention. However, I would like to focus on his pioneering work in making challenges to the paranormal/supernatural a seamless enterprise. The rules of empirical investigation should be applied to any claim, be they the miraculous claims of religion or those of pseudoscience. Paul Kurtz leaves behind his worldwide insight that no aspect of human experience should lie beyond criticism and doubt. It is now up to us to build on this legacy as we strive to free the world of superstition.

—Edward Tabash is chair of the board of directors, Center for Inquiry, Committee for Skeptical Inquiry, and Council for Secular Humanism.

The House That Kurtz Built

Daniel Loxton

I am saddened, as a skeptic and a humanist, to hear of the passing of Paul Kurtz. I didn't know him personally, yet Kurtz had an immense and lasting impact on my life, values, and career. As a defining leader in secular humanism and a founder of North America's first successful organization for scientific skepticism, his life's work made my life's work possible. My colleagues and I are caretakers for the house he built.

—Daniel Loxton is Editor of Junior Skeptic, Skeptic *magazine.*

Spreading Skepticism Worldwide

Amardeo Sarma

The death of Paul Kurtz is a blow for skeptics well beyond America. Many skeptical groups around the world would not exist but for him. He was always encouraging and strongly committed to the international nature of skepticism. Without him there would be no GWUP in Germany nor many other organizations operating in Europe and elsewhere. He moved the initiative in the 1980s to spread skepticism all over the world—from China to Europe, and from Africa to Latin America. His example is a constant reminder to maintain our commitment to the "new skepticism" as a strong tool of science for consumer protection and a rational world.

—Amardeo Sarma is chairman of GWUP (the German skeptics group) and a member of the Committee for Skeptical Inquiry Executive Council.

A Truly Contagious Optimism

D.J. Grothe

Paul Kurtz was my dear friend and an inspiration to me. His humanity, his passion, his creativity, and his always-grand plans were the building blocks of a number of international organizations, and he worked tirelessly to grow the worldwide skeptics and humanist movements. In this respect, his impact remains unrivaled.

But what was most meaningful to me about Paul was his truly contagious optimism. He had unshakable faith in humanity—in people—and that we can work together despite our differences and make the world a better place without giving in to the transcendental temptation.

I've never known anyone who loved life more. I can still hear him sermonizing about the good life's "tang" and the "zest of living." It fills my heart to remember this now.

I've never known anyone who loved life more. I can still hear him sermonizing about the good life's "tang" and the "zest of living."

He gave so much to so many people around the world through the organizations he founded, but also often behind the scenes, never looking for recognition. They say no man is a hero to his valet, but the more I got to know Paul over the years, the more I came to love and respect him. He is deeply, deeply missed.

—D.J. Grothe worked with Paul Kurtz at CSI for many years and is now president of the James Randi Educational Foundation.

Journey into Skepticism

CHRIS FRENCH

I suspect there are many people who, like me, met Paul Kurtz in person only a handful of times and yet whose own lives were greatly—and positively—influenced by him. My own journey into skepticism has a very definite beginning. Up until reading James Alcock's book *Parapsychology: Science or Magic?* in 1981, I was no skeptic. All of the books I had read until then on such topics as ESP and UFOs were very pro-paranormal, and there simply was not much around in the way of proper skeptical analysis. Perhaps naively, I had simply accepted what I had read in such books. Reading Alcock's book was a revelation to me. I realized that there was another way of thinking about the paranormal and related topics, one that I found fascinating and convincing—one based upon reason and evidence. I also realized that there was skeptical literature out there. Alcock's book contained many references to a publication I'd never heard of before called the SKEPTICAL INQUIRER, as well as the work of people that, up until then, were unknown to me—such as James Randi, Ray Hyman, and, of course, Paul Kurtz. I immediately subscribed to SI, as well as later subscribing to its British cousin, *The Skeptic* (a magazine that I would subsequently edit for over a decade). I also devoured books by my new skeptical heroes. I probably now have more books on my shelves published by Prometheus Books than by any other publisher. I fully appreciate just how much influence Paul Kurtz's initiatives had on the course of my life—and for that, I will always be grateful.

—Chris French is professor of psychology and head of the Anomalistic Psychology Research Unit, Goldsmiths, University of London.

Book of Seasons: An Elegy, for Paul Kurtz

It's as though
    these
yellowed
    trees
    are newly
        gilded
by the sun,
their fallen
    leaves
        old
        hammered
        gold.
        So
you are gone
with the season,
        before snow's
white pages
    are scribbled
        again
with passages
    you'd find decipherable,
that would flow
like a spring thaw.
We'll see you
    often,
    wherever reason
grows,
flowers anew.

—Joe Nickell
2012

[INVESTIGATIVE FILES JOE NICKELL

Joe Nickell is CSI's senior research fellow. His numerous books include *Looking for a Miracle*. His website is www.joenickell.com.

Miracle Dirt of Chimayó

Called "the Lourdes of America" (after the famous French healing shrine), El Santuariò de Chimayó in New Mexico is a place of pilgrimages. Scores visit the little adobe church daily, while thousands walk miles to worship there on Good Friday. Some carry heavy crosses, while others approach on their knees. Many come seeking a cure for their afflictions, scooping from a small pit in the church floor a reddish soil that they rub on afflicted areas of their bodies or even sprinkle on their food or brew in tea (Eckholm 2008). (Figure 1.)

The Legend

The word *Chimayó* derives from hot springs that were sacred to the Tewa Indians (a linguistic group of Pueblos) who called them Tsimajopokwi (*pokwì* in Tewa means "pool of water"). After the springs dried up, the name was shortened to *Tsimayo* (Nealson 2001, 62). According to a pious legend (of which there are many versions), brethren from the secret Penitente Brotherhood were engaging in rites on a nearby hill on a dark Good Friday in 1810 when one saw a mysterious light coming from the valley. Investigating and finding a half-buried crucifix, the men sent for a priest, the nearest church being ten miles away in Santa Cruz. The priest had the wooden crucifix carried in a procession to his church, but by the next morning it had disappeared—having been miraculously returned to its original site! This removal and return occurred two more times before people understood the message: the crucifix was to remain on the spot, which had reportedly been a sacred area for the Pueblo Indians (Eckholm 2008).

This grafting of a Roman Catholic element onto a native one—a process called *syncretism*—was common. It was often similarly accomplished by the shrewd use of a "miracle." (For example, a "miraculous," actually tempera-painted, image of the Virgin of Guadalupe appeared in Mexico City in 1531 to prompt the building of a Catholic shrine—on a hill where the conquered Aztecs had had a temple to *their* virgin goddess, Tonantzin [Nickell 1988; 2004].)

One of the Penitente brothers, Don Bernardo Abeyta, built a small *hermita* (shelter) onto his house to enshrine the miracle crucifix. The *hermita* also allegedly "covered a hole from which came a blessed dirt that cured all ailments" (Kay 1987, 35). Abeyta himself was "instantly healed" of an undisclosed illness (Kutz 1988, 46–47). Alternately, Indian stories from the twentieth century suggested that a Tewa pueblo had once stood on the spot next to a pool whose mud had healing properties (Harrington 1916, 342). Revealingly, the chapel's full name (El Santuariò de Chimayó de Nuestro Señor de Esquipulas) evokes a shrine in Guatemala that had long been venerated for its miraculous healing crucifix and surrounding earth with curative powers. As well, there are much-touted healing mud baths at Chilca, Peru (which I visited with a guide in 2006). In any event, in 1816 a chapel was completed on the Chimayó site by Father Francisco de Otocio, who was in charge of all New Mexico missions (Kay 1987, 29–37; Eckholm 2008).

The Nitty Gritty on the Dirt

Today, pilgrims visiting El Santuariò de Chimayó stoop to enter a small, single-windowed room that is said to be Abeyta's original *hermita*. The central hole, *El Posito* ("little well"), measures some sixteen to eighteen inches wide and less than nine inches deep. Considering the great amount of earth that must have been scooped from it during its almost two centuries of history, however, this is a small hole indeed! Hence, there grew a pious legend "that the pit was refilled by divine intervention" (Eckholm 2008). (This was similar to the claim that regardless of how many pieces were taken from the True Cross, the alleged holy relic of Jesus's Crucifixion, it never diminished in size [Nickell 2007, 91–92].)

But even though "legend still maintains that the hole miraculously replenishes itself," in fact "priests periodically refill the hole with dirt from outside the church" (Kay 1987, 77). Indeed, previously tipped off to this fact by a television cameraman (Del Monte 2001), we searched for and found the storage area where five-gallon containers of the reddish soil are stored (Figure 2). In recent years, priests at El Santuario de Chimayó have increasingly taken pains to point out the shed where the trucked-in soil is stored, with one complaining, "I even have to buy clean dirt!" (Eckholm 2008).

In fact, the "holy dirt" is nothing very special. An analysis conducted for *The Miracle Detectives* television series identified the presence of carbonates that might have a beneficial effect on heart-

burn by neutralizing excess acid. "Beyond that," stated series co-star Indre Viskontas, the show's skeptic, "there doesn't seem to be anything out of the ordinary" (*Miracle Detectives* 2011).

I agree. I had collected my own samples for testing on a visit to Chimayó in 2003 with investigator Vaughn Rees. In the guise of a pilgrim needing healing (again see Figure 1), I obtained a small plastic container from the gift shop, sold empty but labeled "Blessed Dirt." My examination, in my little lab at CSI headquarters, showed that the "dirt" contains no appreciable humus but is largely sand, consisting of tiny grains of minerals and small bits of rock. (Application of hydrochloric acid yielded a strong effervescence that confirmed the presence of carbonates. The addition of potassium ferrocyanide reagent produced a Prussian-blue reaction that identified a significant amount of iron, consistent with its color of red ocher, an earthy iron oxide. Stereomicroscopic examination showed grains of such common minerals as crystalline quartz and mica, as well as small lumps of sandstone and occasional bits of organic material, including tiny fragments of bone and fine root stems.[1])

Chimayó priest Father Jim Suntum concedes that the dirt itself has no miraculous power (*Miracle Detectives* 2011). In fact, the local dirt has actually acted in a very anti-miraculous way: it has posed a threat to the church's artworks. As conservators found in 2003–2004, they "had to deal with the dirt." Indeed, "It had drifted down from the ceiling and walls in the almost 200 years the church had existed, covering the paintings on the five altar screens, the crucifix and the carved *bultos* [sculptures] with a fine dust that needed cleaning. Dirt also had fallen behind the main altar screen to push it out of joint and threaten its very existence." Still, a writer would claim that the preservation process itself, at least, was "almost a miracle" (Russell 2004, 36, 40).

The Healing 'Miracles'

Nevertheless, while Father Suntum concedes it is not the holy dirt that heals but rather one's "relationship with God," he insists: "Something happens in this place." However, he admits: "We can't quantify it. We can't document it. We do ask people to tell their story" (*Miracle Detectives* 2011). In fact, "officially, the Church has never investigated any of the claims" (*El Santuariò* . . . 1994, 26).

The complete lack of records regarding alleged miraculous experiences means that claims are entirely dependent on anecdotal evidence, such as the unverifiable stories told by an aging priest at the site. For example, in the mid-1950s, he recalled, a man carried his frail, ill mother into the church. "A few minutes later," said the priest, "he called me, something has happened. She was kneeling in front of the altar. She was talking and full of health" (Hamm 2006, 42, 45). Yet we do not need to invoke the miraculous to explain what may have been only a simple rejuvena-

Figure 1. The author, in the persona of a pilgrim, visits the famous "Lourdes of America," where holy dirt supposedly effects miracle cures. (Author's photo by Vaughn Rees)

Figure 2. Despite a legend that the dirt, scooped from a small hole in the church floor, replenishes itself, it is actually purchased from outside and kept in a storeroom until it's time to refill the hole. (Author's photo)

tion of the woman's spirits.

Or consider the tale about a girl from Texas whose family "was told she had little time to live" and that even an operation might not save her. Following their visit to Chimayó the child was well and no operation was necessary. "Two days later," recalls the old priest, "they came back to thank God for the cure" (qtd. in Hamm 2006, 45). Now, we cannot prove this story is untrue, but fortunately we do not have to. The tellers of such unverifiable tales have the entire burden of proof.

However, when such cases can be investigated, they are invariably illuminating. For instance, *The Miracle Detectives* examined the case of a Colorado woman, Deseree "Dese" Martinez, who claims the dirt of Chimayó helped her cancer go into remission. Diagnosed at the age of fifteen with aggressive bone cancer at numerous sites in her body, she visited Chimayó where she mixed the holy dirt with spit and applied it to a sore spot on her leg. The pain was gone by the next morning, and scans the following week showed the area healed. Inexplicably, she did not then rub dirt on the other lesion spots, but they soon disappeared too.

However, the woman's doctor, Brian Greffe, at The Children's Hospital in Denver, observed that with such non-Hodgkin's Lymphoma in pediatric cases, the hospital's "cure rates are quite high." He attributed Martinez's success to the chemo treatments, which had worked "within days" of their beginning. Obviously, there is no evidence that the interim application of holy dirt to a single site had any effect, although Greffe did say Martinez's positive outlook and the support of her family were helpful (*Miracle Detectives* 2011).

As invariably shown by the evidence, so-called miraculous healings are never scientifically verified. Such claims, like those at Lourdes, the most famous "miracle" shrine, are derived from cases that are supposedly "medically inexplicable"; therefore, they are really examples of a logical fallacy called "arguing from ignorance"—that is, drawing a conclusion from a lack of knowledge. Besides, some illnesses are known to exhibit spontaneous remission, and other reputed cures may be attributable to a host of other factors: misdiagnosis, psychosomatic conditions, the body's own healing mechanisms, and the like, including—as in the case of Martinez—prior medical treatment (Nickell 2008).

While the church displays crutches and canes—ostensibly cast off after previous cures—they may well have been discarded prematurely. Persons may feel better temporarily after experiencing the hope and excitement of a pilgrimage. Writer Anatole France, on visiting Lourdes and seeing the abandoned canes and crutches there, sagely remarked, "What, what, no wooden legs???" (qtd. in Hines 1988, 250).

Writer Anatole France, on visiting Lourdes and seeing the abandoned canes and crutches there, sagely remarked, "What, what, no wooden legs???"

Conclusions

As the evidence shows, therefore, claims made for holy dirt at Chimayó are unwarranted. Despite borrowed and contrived legends that the site is miraculous, the soil is actually an ordinary variety trucked in from elsewhere and merely blessed. Priests admit that the "something" that happens at the site cannot be quantified or documented—and indeed a major healing claim fell apart on investigation.

One suspects that the "something" is merely what is termed confirmation bias—the willingness to credit any supposed benefits while ignoring countless failures. One writer offers the apologetic, "It is a mystery why certain people and situations are granted a miracle and others are not" (Hamm 2006). But it is only a "mystery" if one chooses to be blind to the evidence. ■

Note

1. Finally, I ran a battery of standard analyses using a commercial soil-test kit determining the pH was 7.0 (neutral), and that nitrogen, phosphorous, and potash were at insignificant levels.

References

Del Monte, Steven. 2000. Personal communication, October 20.

Eckholm, Eric. 2008. A pastor begs to differ with flock on miracles. *The New York Times* (February 20).

El Santuariò . . .: A Stop on the "High Road to Taos." 1994. Silver Spring, MD: Sons of the Holy Family.

Hamm, Elizabeth Catanach. 2006. It's a miracle: Hope, faith bond at El Santuario de Chimayó. *New Mexico* (March): 40–45.

Harrington, John Peabody. 1916. Cited in Kay 1987, 14.

Hines, Terence. 1988. *Pseudoscience and the Paranormal*. Buffalo, NY: Prometheus Books.

Kay, Elizabeth. 1987. *Chimayó Valley Traditions*. Sante Fe, New Mexico: Ancient City Press.

Kutz, Jack. 1988. *Mysteries & Miracles of New Mexico*. Corrales, NM: Rhombus Publishing Co.

The Miracle Detectives. 2011. Holy Dirt of Chimayó. Episode aired April 10.

Nealson, Christina. 2001. *New Mexico's Sanctuaries, Retreats, and Sacred Places*. Englewood, CO: Westcliffe Publishers, 61–63.

Nickell, Joe. 1988. *Secrets of the Supernatural*. Buffalo, NY: Prometheus Books, 103–17.

———. 2004. *The Mystery Chronicles*. Lexington: University Press of Kentucky, 51–55.

———. 2007. *Relics of the Christ*. Lexington: University Press of Kentucky.

———. 2008. Lourdes medical bureau rebels (blog entry). *Free Thinking* (December 25). Online at http://www.centerforinquiry.net/blogs/entry/lourdes_medical_bureau_rebels/.

Russell, Inez. 2004. Saving El Santuario: Preservation process almost a miracle. *New Mexico* (December): 36–41.

[THINKING ABOUT SCIENCE MASSIMO PIGLIUCCI

Massimo Pigliucci is professor of philosophy at the City University of New York, a fellow of the American Association for the Advancement of Science, and author of *Answers for Aristotle: How Science and Philosophy Can Lead Us to A More Meaningful Life*. His essays can be found at rationallyspeaking.org.

Physicists against Philosophers

In the past few months we have seen a sudden explosion of writings by physicists attacking philosophy, often for no particularly good reason. Stephen Hawking began his most recent book, *The Grand Design*, with the rather startling assertion that philosophy is dead, on the grounds that it hasn't been helpful for science since the time of Newton. He then proceeded to fill the book with (unwittingly) philosophical arguments concerning cosmology and fundamental physics.

Even more egregiously, Lawrence Krauss blurted out something to the effect that philosophy of science is a big waste of time during an interview in *The Atlantic*. He was prompted to apologize by philosopher Dan Dennett in the pages of *Scientific American*, but he only managed to dig himself into a significantly larger hole. A hole that became a downright abyss in the course of yet another public commentary by Krauss on philosophy, this time during an exchange with philosopher Julian Baggini in *The Guardian*.

What is going on here? Hostility across what C.P. Snow famously labeled "the two cultures" is nothing new, going back at least to Plato's stated indifference toward natural science (countered, however, by his pupil Aristotle's proto-scientific investigations in biology and physics). Years ago, Nobel winning physicist Steven Weinberg—usually a very thoughtful author—wrote a chapter of his *Dreams of a Final Theory* entitled "Against Philosophy." On their part, some philosophers have been writing either unflattering or downright ill-informed things about science (there is, for example, an unintentionally hilarious essay on relativity by Bruno Latour, not to mention Jerry Fodor's recent attack on evolutionary theory in *What Darwin Got Wrong*).

Then again, most philosophers of science are highly sympathetic and respectful of science, and some have advanced criticisms that have been taken in due account by sensitive scientists (see, for instance, Elliot Sober's wonderful *Evidence and Evolution*). Criticism, within the academy, is—ideally—meant to be constructive, and is supposed to be part and parcel of the intellectual life, though it is understandably difficult to take when it comes from practitioners outside one's own discipline. So why the unusually strong rhetoric by Krauss and Hawking in particular?

Besides issues of ego and of wounded professional pride, I think there is a systematic misunderstanding on the part of many (certainly not all) scientists about what philosophy is, how it works, and what it aims at. To begin with, the goal of philosophy—and particularly of philosophy of science—is not that of solving scientific problems. We've got science for that, and it works very well on its own, thank you very much. Rather, philosophers of science are interested in looking at science from the outside, asking questions pertinent to the structure and logic of scientific theories, to the epistemic warrant of scientific methodologies, and in some cases even to the societal impact of scientific discoveries and concepts. This is the sort of stuff that practicing scientists can certainly safely ignore in their day-to-day operations, but this doesn't justify declarations of the death of philosophy on grounds

One reason why so many scientists misjudge philosophy is because they tend to use their own standards of progress to assess everyone else's usefulness.

of irrelevance to science. To insist on that line of argument is to commit what philosophers call a category mistake—like asking about the smell of triangles.

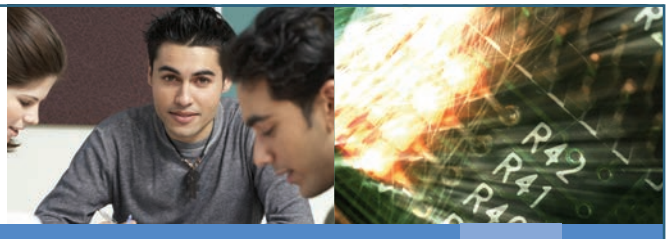
Another reason why so many scientists misjudge philosophy is because they tend to use their own standards of progress to assess everyone else's usefulness, thus engaging in yet another common fallacy, that of thinking of every problem as a nail just because the only tool one has available is a hammer. There is no question that science does make progress, though certainly not in a linear fashion, nor without the occasional blunder (think of eugenics, or the Piltdown man). Indeed, it is philosophers of science like Karl Popper, Thomas Kuhn, and others who have spent quite a bit of time trying to articulate precisely how science makes progress and how we can make sense of it.

But there are nonscientific disciplines that also make progress without being sciences. Logic and mathematics immediately come to mind. These are not sciences, in the sense that their advance does not depend on empirically verifiable propositions. Progress in logic and math is often a result of deductive reasoning, not the inductive thinking that is more typical of science. The situation is analogous, albeit more messy, in philosophy. Philosophers make progress by exploring the logical space, so to speak, of possibilities relating to a particular problem that interests them.

For instance, philosophers of science have been debating the difference between realism (the proposition that scientific theories are—at least ideally—descriptions of the world as it actually is) and anti-realism (the idea that scientific theories are empirically adequate, but that we cannot actually tell whether they are true or not). The debate has unfolded over a number of decades (things typically move more slowly in philosophy than in science), and it has seen sophisticated arguments and counter-arguments on both sides. But has there been progress?

Yes! At least in two senses: first, no current defender of realism (or anti-realism) could possibly be such on the basis of the original arguments, because those have been criticized and refined by a number of thinkers. So these days one has to espouse a significantly more sophisticated form of realism (or anti-realism) than was typical early on in the debate. Second, an intermediate position—called structural realism (according to which scientific theories aim at describing the "structure," not necessarily the substance, of reality)—has not only emerged but attracted an increasing number of supporters, coming as close to a consensus as one might reasonably hope for in philosophy. Increasingly, new areas of logical space have been explored, and the debate has moved from naive to more sophisticated positions. That is what philosophical progress looks like, and if people such as Hawking and Krauss don't get it, that is their (surprisingly, somewhat anti-intellectual) limitation, not philosophy's problem. ■

SCIENCE AND THE PUBLIC



Earn your master's degree in Science and the Public through the University at Buffalo and the Center for Inquiry!

Explore the methods and outlook of science as they intersect with public culture and public policy. This degree is ideal for enhancing careers in science education, public policy, and science journalism—and prepares you for positions that involve communicating about science.

This unique two-year graduate degree program is entirely online. Take courses from wherever you are in the world at your own pace! Courses include: Science, Technology, and Human Values; Research Ethics; Critical Thinking; Scientific Writing; Informal Science Education; Science Curricula; and History and Philosophy of Science.

Science and the Public
Graduate School of Education & the Center for Inquiry

For details, visit www.gse.buffalo.edu/online/science
Questions? Contact John Shook, CFI Vice President for Research, at jshook@centerforinquiry.net.

Massimo Polidoro is an investigator of the paranormal, lecturer, and cofounder and head of CICAP, the Italian skeptics group. His website is at www.massimopolidoro.com.

Hitler's South Pole Hideaway

"Searching for Hitler's DNA in Antarctica." This is the bizarre headline that made the news a few months ago, launched by Russian news agency Ria Novosti and picked up by the world media after scientists were able to successfully drill into Antarctica's Lake Vostok. The lake, a massive liquid reservoir cut off from daylight for fourteen million years and buried beneath two miles of ice, is the object of a years-long project to study its waters, which may house life-forms new to science. But what immediately caught the imagination was what seemed to be a revamping of the long-held myth that Adolf Hitler did not commit suicide in his Berlin bunker in May 1945 but was able to escape via submarine to a secret base at the South Pole.

Doubtful Death

Such an idea started circulating immediately after the end of the war. In 1952, President Dwight D. Eisenhower said: "We have been unable to unearth one bit of tangible evidence of Hitler's death. Many people believe that Hitler escaped from Berlin." Stalin's top army officer, Marshall Gregory Zhukov, whose troops were the first to enter Berlin, flatly stated after a long thorough investigation in 1945: "We have found no corpse that could be Hitler's." The chief of the U.S. trial counsel at Nuremberg, Thomas J. Dodd, said: "No one can say he is dead." Former Secretary of State Jimmy Byrnes in his book *Frankly Speaking* stated that, after the war, at the Potsdam Conference of the Big Four, he met Stalin, who "left his chair, came over, and clinked his liquor glass with mine in a very friendly manner. I said to him: 'Marshal Stalin, what is your theory about the death of Hitler?' Stalin replied: 'He is not dead. He escaped either to Spain or Argentina.'"

Hitler's Berlin bunker, after the Soviet army destroyed it.

In the early 1930s, the imaginations of Nazi hierarchs and maybe Hitler's as well was captured by theories that the earth was hollow inside and inhabited by a superior race.

If so many Nazi officers and criminals, like Adolf Eichmann or Joseph Mengele, were able to escape undisturbed from defeated Germany, who's to say that a diabolical mind like Hitler's could not have set up a plan in order to simulate his own death? After all, it was known that, like many dictators, he used doubles in order to disorient his enemies. What if he had left the body of one such double in Berlin while he was fleeing to the South Pole?

It appears that in the early 1930s, the imaginations of Nazi hierarchs and maybe Hitler's as well was captured by theories that the Earth was hollow inside and inhabited by a superior race. In particular, Madame Blavatsky's esoteric theories had inspired the notorious Thule Society, the extremist right-wing German secret group that later reorganized and became the Nazi Party. Anxious to demonstrate the superiority of the Aryan race, theorists accepted legends of advanced civilizations living inside the Earth: such a superior breed had to be the Reich's progenitor.

Nazis on Ice

Proof is lacking, but some claim that Hitler had ordered an expedition aiming to find the entrance to the inside of the Earth and that this had been located at the South Pole. Admiral Karl Doenitz referred to this during the Nuremberg trial when he stated: "The German submarine fleet has even now established an earthly paradise, an impregnable fortress, for the Fuhrer, in whatever part of the world." Although he did not specify where the exact location was, many believed it was Antarctica.

After the war, Nazi sympathizer Ernst Zundel claimed that Hitler and a trusted group of men had been able to escape aboard a ship in which they entered the Earth through a hole at the South Pole. Inside the Earth, Nazi scientists worked to build a new army with which to take over the world. An army that could count on revolutionary round, flying vehicles: UFOs.

Daring fantasies that, only fifty-five years after the end of the conflict, were dissolved after documents from the Russian secret service came out. The dictator had taken his life; Eva Braun and trusted propagandist Joseph Goebbels had as well. Following Hitler's orders, the bodies had been burned. When the soviet army arrived they found the charred remains and could not recognize who they belonged to. Stolen by soldiers, the remains were subsequently examined with forensics, and their true identities were ascertained. The corpses were then buried and in 1970 Breznev ordered them exhumed, incinerated, and dispersed in the waters of the Ehle, in order to prevent fanatics' pilgrimages.

Legends Never Die

If all of this is clear, then why is it that the claim of a possible escape by Hitler can still make front-page news? Because urban legends never really die, and with the new findings at Lake Vostok, someone unearthed a forgotten story. Some claim that according to German marine records, months after the Nazis surrendered to the Allies in 1945, a U-530 submarine reached Antarctica from Keil. There, the members of the crew did not build a fortress for the Fuhrer, but inside an ice cave they may have hidden some crates containing Third Reich relics and, even, DNA samples of Hitler and Eva Braun for cloning purposes. With their mission accomplished, the sailors reached Argentina and surrendered to Mar del Plata authorities.

However, notwithstanding sensational headlines in some newspapers, it appears highly unlikely that we will soon read about the finding in Lake Vostok of such a cave and its crates. And this silence, without a doubt, will represent further proof that the relics really exist, at least to those who love to see conspiracies everywhere. ■

(Continued from page 4)

Here are some others from just the past year or so in the pages of SI: the fabrication and distortion of historical evidence about American prehistory; whether the main damage of the 9/11 attacks was what we did to *ourselves* in *reaction* to them; the bizarre activities and views of 9/11 "truth" activists; the age of denialism (take your pick of the topic); over-hyped commercial stem-cell therapies; weird studies funded by taxpayer grants from NIH's National Center for Complementary and Alternative Medicine; distortions about the HPV vaccine; the highly popular power balance bracelets (tested and failed); Scientology; doomsday (not) coming this December; conspiracy theories about "missing records"; shortcomings in the diagnosis of Post-Traumatic Stress Disorder; whether the concept of *race* has any scientific validity; in vitro meat production; over-hyped multiple sclerosis treatments; the social power of AIDS denialism; the problem of "pseudoskeptics" in AIDS denialism, intelligent design, opposition to climate science, and anti-vaccination movements; deeply imbued political myths, with examples from *both* parties and Europe too—and so on. Whew!

And that doesn't even count the usual controversies, and complaints from proponents, over our core mission—critical examinations of the latest claims of paranormal happenings, psychic powers, quack medical remedies, UFOs, aliens, and monsters!

In our July/August 2012 issue we published what I considered an enlightening and provocative article by our colleague Chris Mooney, "Why the GOP Distrusts Science." I thought it important for all open-minded skeptics to consider the evidence that one of our main political parties has apparently shifted so far in one ideological direction over the past several decades that it (or at least a significant component of it) has become essentially the anti-science party. Mooney provides lots of published data and explains why that might well be the case. If that's true (and Mooney gave a lot of evidence for it), then I think that is important for us all to know and face.

SI and our Committee for Skeptical Inquiry are nonpartisan. SI is a magazine of science and reason. We don't deal with partisan political issues per se. We don't take political stands on issues unrelated to the advocacy and protection of good science. We welcome people of all political stripes. There is no political litmus test for skepticism. But we *do* adamantly defend good science, critical thinking, and open-minded free inquiry.

I expected that some readers might be a bit troubled by Mooney's article. I also thought that perhaps even our conservative and libertarian colleagues might have some of these same concerns *themselves*. But here's what I noticed. Many readers liked the article, but of those who wrote to complain, and there were many, almost all objected in an almost personal way, with sarcasm or anger. Few mentioned the actual published evidence Mooney cited, let alone engaged or rebutted it in any way, or discussed its implications for the nation, if true. One even canceled his subscription. Another wrote his complaints on his copy of the SI article, tore out the pages, and mailed them back to us, as if to doubly emphasize his indignation.

It was left for our own Ron Lindsay to do the first real critique in our pages of what Mooney had to say, and he did so in I think a very respectful and thoughtful and nuanced way, which is the appropriate way, in a review in the following issue (September/October 2012). I appreciated his ultimate conclusion: the real concern is *dogmatism*, wherever it comes from along the political spectrum.

In 2007, the same kind of thing happened over what I considered our relatively innocent publication of news of the latest consensus scientific information about climate change. This is another scientific field, like evolution, where there is a big gap between the science and public acceptance. That alone makes it an issue for us. Many readers were furious. They bombarded us with critical letters. More than half a dozen wrote to cancel their subscriptions. (One supporter and expert on the climate controversies, for whom I am eternally grateful, immediately counteracted those cancelations by sending us a contribution equaling the value of six subscriptions.)

I am continually surprised at that kind of reaction from people who are for the most part fellow skeptics, but I am slowly learning not to be so surprised. We are all human. Psychological research shows that the thing we tend to do when we face an uncomfortable set of facts—our very first impulse in fact—is to attack the author or publication; dismiss, distort, or deny the evidence; and deflect the argument back on itself (and yes, I know liberals can be anti-science too; look at nuclear power or genetically modified foods).

Nevertheless, despite all that, I still have a, perhaps naive, faith—if I can use that word here—in the common sense and collegiality and civility of most people, and certainly most of our readers. On scientific findings that raise troubling concerns, let us resolve always to employ the best available scientific facts and evidence . . . and then engage in free, open—and civil—discussion.

—Kendrick Frazier

Notes

1. For another thoughtful and illuminating new look at some of these same issues, I heartily recommend the chapter "Right, Left, Up, Down: On Politics" in our colleague Massimo Pigliucci's just-published book *Answers from Aristotle: How Science and Philosophy Can Lead Us to a More Meaningful Life* (Basic Books 2012). As most of you know, Pigliucci is both a biologist and a philosopher, and in this particular chapter he provides a nuanced look at recent scientific research into how people think about politics. Unlike Mooney's article, his examination is not directed at any one political party. It doesn't deal with political attitudes toward science specifically, but it is nevertheless a valuable contribution. He starts with recent findings from biological and cognitive sciences, reports on a study showing that our stereotypical views about party affiliations are flawed and simplistic (people's views are usually more complicated and nuanced than anyone can easily portray), discusses why despite that fact we've had increasing polarization, and ends summarizing a study that shows six different defense strategies we employ when faced with evidence that counters our beliefs.

2. A somewhat shorter version of this editorial served as my introduction to the panel on "Science and Public Policy" at the Committee for Skeptical Inquiry's CSICon 2012 conference in Nashville, October 25–28, 2012, with presentations by Chris Mooney, Ronald A. Lindsay, and Yale University law and psychology professor Dan Kahan.

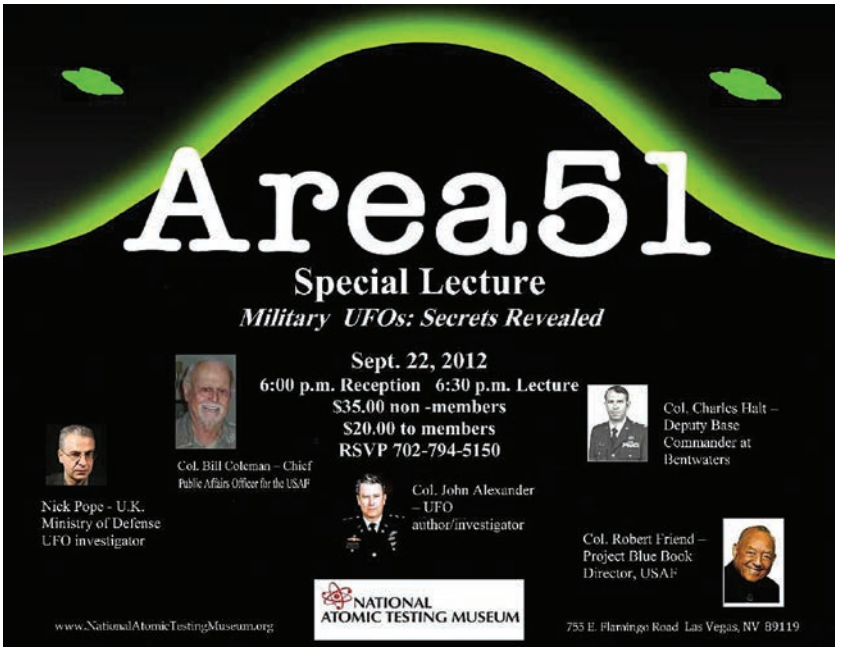
Sheaffer's "Psychic Vibrations" column has appeared in the SKEPTICAL INQUIRER for more than thirty years; its highlights have now been published as a book (Create Space 2011). Sheaffer blogs at www.BadUFOs.com, and his website is www.debunker.com.

Smithsonian-Affiliated National Atomic Testing Museum Promised to Reveal 'UFO Secrets'

The National Atomic Testing Museum (http://www.nationalatomictestingmuseum.org/) is a relatively new—and seemingly professional—museum a few miles east of the Las Vegas Strip on Flamingo Road. I visited it about two years ago and was very impressed by its powerful and relevant exhibits on the subjects of atomic testing and the Cold War.

Now that museum, an affiliate of the Smithsonian Institution in Washington, DC, is getting heavily into claims about Area 51 and UFOs. It presently has a special exhibition on Area 51 that requires a separate admission ticket. This exhibit was not there when I visited. I thought that the Area 51 exhibit restricted itself to aerospace-related matters, but Lee Speigel writes in the *Huffington Post*, "Among the many items displayed are materials presented as 'Authentic Alien Artifact'—samples of small objects originating from an alleged UFO crash in Russia" (http://tinyurl.com/9qx6wtj), and he provides a photo of it. So if you want to see an "Authentic Alien Artifact," the National Atomic Testing Museum claims to have one.

Not satisfied with that absurdity, the National Atomic Testing Museum is now getting into full-fledged promotion of UFO claims. On September 22, 2012, they sponsored an "Area 51 Special Lecture—Military UFOs: Secrets Revealed" (http://tinyurl.com/9kgxfo5).


Area51
Special Lecture
Military UFOs: Secrets Revealed
Sept. 22, 2012
6:00 p.m. Reception 6:30 p.m. Lecture
$35.00 non -members
$20.00 to members
RSVP 702-794-5150
Col. Bill Coleman – Chief Public Affairs Officer for the USAF
Nick Pope - U.K. Ministry of Defense UFO investigator
Col. John Alexander – UFO author/investigator
Col. Charles Halt – Deputy Base Commander at Bentwaters
Col. Robert Friend – Project Blue Book Director, USAF
NATIONAL ATOMIC TESTING MUSEUM
www.NationalAtomicTestingMuseum.org
755 E. Flamingo Road Las Vegas, NV 89119

There was nothing at all skeptical about this panel.

One of the speakers was Nick Pope, who for years has been warning about an "alien invasion" (http://tinyurl.com/9z8gcx6). Most recently, just before the London Olympics, Pope warned, "The government must—and has planned—for the worst-case scenario: alien attack and alien invasion. Space shuttles, lasers, and directed-energy weapons are all committed via the Alien Invasion War Plan to defence against any alien ships in orbit," he said, apparently unaware that America's Space Shuttle orbiters have been dispersed to various museums and the rest of the system scrapped.

Pope didn't say anything more about alien invasions and didn't reveal any "secrets." Instead he told the audience the history of Britain's Ministry of Defence UFO investigations, which he worked on for three years almost twenty years ago and has not stopped talking about since. His relatively low-key talk emphasized the "unexplained" nature of many reported sightings.

Another speaker was Col. Charles Halt (USAF Retired), who was the deputy base commander of the Bentwaters U.S. Air Force Base in England, and a major witness to the supposed Rendlesham "UFO landing" in December 1980. As noted by the British skeptic Ian Ridpath (http://tinyurl.com/c5hqcch), the tale told by Col. Halt about this incident has "improved" dramatically over the years. In 1980, Halt claimed only to have witnessed "star-

like" objects in the sky. By 2010, his account had expanded so that the objects zoomed up over his head and sent down a laser-like beam at his feet. The audience at Las Vegas heard the new and improved version of Col. Halt's tale, with no hint of any reasons to question it. As Ridpath wrote in reference to a posting by David Clarke:

> Halt's superior officer at the time of the events, Col Conrad, has been scathing of his claims, saying: "He should be ashamed and embarrassed by his allegation that his country and England both conspired to deceive their citizens over this issue. He knows better." (http://tinyurl.com/3yr3et4)

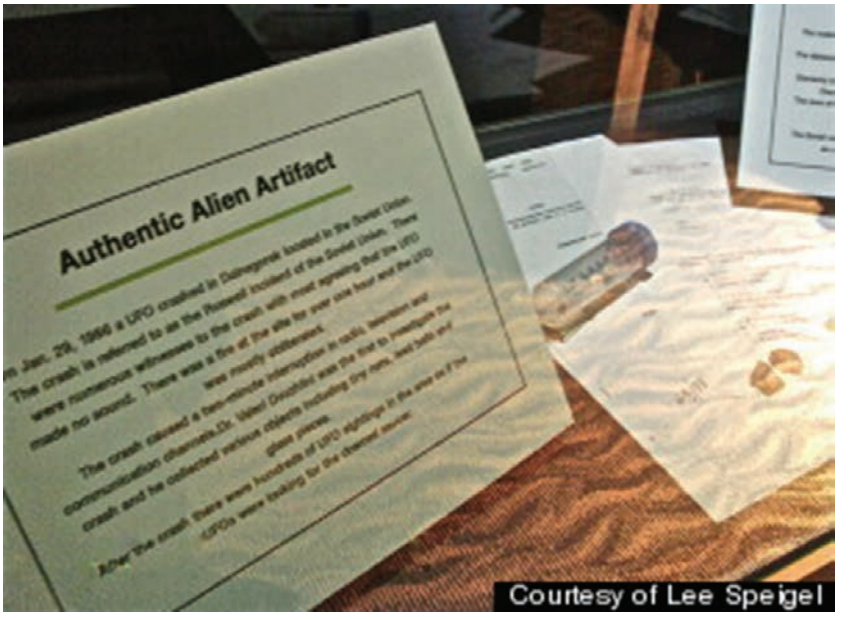
Lee Speigel wrote in the *Huffington Post*, "Former Air Force Col. Charles Halt accused the federal government of a UFO cover-up that involves a secret agency to deal with what might be extraterrestrial visitations." Halt said, "I'm firmly convinced there's an agency, and there is an effort to suppress"(http://tinyurl.com/csoavza).

Former intelligence officer Col. John Alexander (U.S. Army Retired) also spoke. He was part of the Pentagon's "remote viewing" project, and other far-out taxpayer-funded projects. Alexander is a bit unusual among UFO proponents in that he absolutely does not believe that the U.S. Government is covering up any "UFO secrets" or is engaged in any UFO conspiracy. So that rules out belief in the Roswell crash (which got him jeered while speaking at the MUFON Symposium last year, see http://tinyurl.com/bp2lqsk). Yet Alexander is a strong proponent of Col. Halt and the other supposed witnesses at Rendlesham. UFO skeptic James McGaha and I each told Alexander personally about Col. Halt's changing UFO claims and asked how he could continue to have confidence in Halt's story. But Alexander does not seem troubled by Halt's inconsistency or his claims of a big U.S. government cover-up that Alexander believes does not exist, or by the dressing-down of Col. Halt by his superior officer, Col. Conrad. It's bizarre that Alexander, the guy who says there is no U.S. government UFO cover-up, is a big supporter of Halt, the guy who says there is.

Also speaking were retired Air Force Cols. William Coleman and Robert Friend. Friend was the director of the Air Force's Project Blue Book. Coleman, an Air Force public information spokesman, was the producer of the former NBC-TV program *Project UFO*, which ran two seasons (1978 and 1979). The show was so bad that, as I wrote in my "Psychic Vibrations" column (SI, Fall 1979): "Edward Winter, one of the stars of the series, explained how the writers for *Project UFO* got their material: 'As I understand the story, the Air Force finally got tired of looking at us, because they said, "Anything your writers can dream up, we can find. . . . There are over 12,000 cases in the Blue Book report." So instead of finding it first and then writing about it, they let the writers write it and then they go find one like it!'"

Friend did not make any new UFO claims at the museum, but he emphasized that "UFO sightings are real" and that those who report them should be taken seriously. However, when later asked by Speigel if he thought we were being visited by extraterrestrials, Friend replied, "Do I believe that we have been visited? No, I don't believe that," and he went on to cite some of the well-known difficulties involved in attempting interstellar travel (http://tinyurl.com/d8cchzl). If either of these gentlemen, Col.

UFO skeptic James McGaha and I each told Alexander personally about Col. Halt's changing UFO claims and asked how he could continue to have confidence in Halt's story.



Friend or Col. Coleman, ever had any actual "UFO secrets," they should have appeared in the Blue Book files. Or at least in *Project UFO*.

When interviewed before the panel by the pro-UFO journalist Billy Cox, Coleman told a tale of a close encounter with a nuclear blast:

> The World War II veteran and 36 military colleagues have settled into 4.5-foot deep trenches bordering the shot tower, maybe 3,000 yards from ground zero, to watch the latest edition of a 14-part nuclear bomb series called Operation Teapot. Actually, they're not watching it at all; their backs are facing the bomb. Coleman has his head swaddled in blankets. At t-minus 13 seconds on the countdown clock, the wind takes an abrupt shift and blows directly toward the trenches. But it's too late for ignition abort . . . he and his trenchmates see an anthropomorphic dummy fixed to a post behind them is ablaze. The needle on the scintillator is pegging into the red, making the zone so hot the command center refuses to send trucks. (http://tinyurl.com/965s489)

All that radioactivity, said Coleman, gave him leukemia within three years, and a doctor gave him just four months to live. However, as a last resort he visited a family physician who prescribed two quarts of "some kind of tonic," he says. Coleman says he never found out the ingredients, but it was a red liquid that tasted awful. "I have no idea what happened," he says. "But suddenly, the leukemia went away."

At the museum Coleman did not repeat his tale of miraculous healing. Instead he told an exciting tale of his alleged pursuit of a UFO while flying a B-25 bomber in 1955. When the UFO supposedly dived to treetop level, Coleman followed it at the B-25's top speed of 300 MPH. He reported putting the plane into a 90-degree bank at top speed at treetop level. This maneuver would very likely have crashed the plane had it actually taken place. Coleman also told the audience to open their Bibles and read the account of Ezekiel's wheel of fire, which he described as an example of alien contact.

The true irony is that none of the speakers even mentioned Area 51, and nobody revealed any "UFO secrets"—a classic "bait-and-switch" deception. During the question and answer session, Las Vegas skeptic John Whiteside asked about the supposed "authentic alien artifact" in the Area 51 exhibit. The moderator referred the question to reporter George Knapp, in the audience, who (scandalously) was the source of that "artifact." Knapp has made a career out of reporting on weird stuff like alleged saucers at Area 51, Robert Bigelow's Haunted Ranch in Utah, etc. Who had verified that supposed artifact? The Russians and others. Who exactly? No answer. The moderator encouraged the two to take the discussion off-line after the session. Immediately after the close of the questions, Whiteside says he was approached by Jim Brown, who identified himself as the acting director of the museum. Brown berated him for asking such a question, claiming that it threatened their funding. If a museum's funding is threatened by asking a legitimate question, the fault lies not with the questioner but with the museum. Whiteside went looking for Knapp after this, no more than five minutes later, to find that he had quietly slipped out the door.

On September 23, the night after the Museum panel, George Knapp was the guest host on *Coast-to-Coast AM*, the radio show that brings you paranormal claims all night every night (http://tinyurl.com/8whe2tf). One of his guests was Paul Stonehill, coauthor of the book *Russia's Roswell Incident* (http://tinyurl.com/9b5r9rt). Knapp acknowledged bringing the "artifact" back from Russia and giving it to the museum. Knapp says he went to Dalnegorsk in 1996, and apparently brought the sample back with him then. So apparently Knapp has had the thing for more than fifteen years. Stonehill says: "Based on some very serious research and analysis, most likely what we have there is a crash of a reconnaissance probe, a Western, most likely NATO, reconnaissance probe crashed into the hill in the area of Dalnegorsk," although he says that some Russian "UFO experts" concluded otherwise. Stonehill also said, "There is a big black market for UFO artifacts in the former Soviet Union. So a lot of junk is being sold." He said that "researchers" in South Korea and Japan are paying prices in the thousands of dollars per gram for UFO crash metal, raising the question of how much, if anything, Knapp might have paid for his "artifact."

Whiteside wrote to the director of what should now be called the National Atomic Testing and UFO Museum, Allan Palmer, relaying an offer from Penn Jillette to arrange proper scientific testing of the supposed "artifact." Palmer refused to even consider the idea. Palmer's CV on his company's website describes him as a "Certified Peer Reviewer for the American Association of Museums" (http://www.palmergroup-us.com/). One wonders if that "authentic alien artifact" is an example of what the American Association of Museums would consider a "peer reviewed" exhibit.

For whatever reason, we are now seeing once-respected names in education dragging themselves through the swamp of UFO and alien claims. First National Geographic, whose TV channel is embracing UFO claims as if there were no tomorrow, with *Chasing UFOs* merely the most egregious example. Now even a Smithsonian-affiliated museum is shamelessly promoting entirely uncritical UFO claims. What will be next: Bigfoot exhibits? Astrological displays? Are museums to be the next venue for tabloid entertainment? If America's museums are willing to shed all scholarly rigor and self-respect to bring more visitors through the doors, then it will be a sorry day for science education in America. ■

Kenneth W. Krause is a contributing editor and "Science Watch" columnist for the Skeptical Inquirer. He may be contacted at krausekc@msn.com.

Science Writers Gone Wild?

Does anyone ever get the feeling that popular evolutionary science is bursting with bull and obsessed with sex? Consider scholar and science writer Jesse Bering as one prominent example. In the title cut of his new book, *Why Is the Penis Shaped Like That? … And Other Reflections on Being Human* (FSG, 2012), Bering engages in a neat bit of "reverse engineering" to explain the evolutionary significance behind the mushroom-shaped cap and lip separating the human penis's shaft from its glans.

Okay, we're not exploring the origins of the universe here, or even the mystery of human consciousness. But it's not a bad question either. After all, chimp, gorilla, and orangutan phalluses are essentially all shaft, and cat penises come with about 150 sharp, backward-pointing spines (*Ouch*!). So what on earth was nature thinking, so to speak?

Citing a 2004 study published in the journal *Evolutionary Psychology*, Bering offers the "semen displacement theory." Rape, group sex, prostitution, and female promiscuity, the theory goes, have generated intense male competition for access to the female ovum. In response, evolution, an eccentric artist if there ever was one, sculpted a human penis that when thrust into and out of the vagina would "upsuck" and displace the semen of other men.

You might wonder just how this study was conducted. Well, as it turns out, with water, unbleached flour, and prosthetic genitals—both male and female—from a local erotic novelty store, of course! Whatever your appraisal of the study's methodology, the upshot was generally as follows: Phalluses with coronal ridges displaced 91 percent of the fake semen compared to 35.3 percent for their headless counterparts.

But aren't chimpanzees at least as promiscuous or violent as we are, and what about those yowling cats? Bering's answer is identical to the one I once provided to a quarrelsome creationist who wondered why, if evolution was so powerful, it didn't create perfect solutions or at least very similar solutions among species to the same problems.

Precisely *because* evolution does not transpire by intelligent design. "It occurs by selection," Bering observes, "and the raw material for such selection consists of nothing more than random genetic accidents." Thus, male chimps compete in their own way, by depositing the most or the most potent semen. Male cats, by contrast, with their "scratching posts," attempt to stimulate ovulation in addition to competing for access.

You might wonder just how this study was conducted. Well, as it turns out, with water, unbleached flour, and prosthetic genitals—both male and female—from a local erotic novelty store, of course!

Now consider psychologist and biologist David P. Barash's account of human menstruation in his new book, *Homo Mysterious: Evolutionary Puzzles of Human Nature* (Oxford 2012). An extraordinary phenomenon, no other animal comes even close to the human female in terms of both blood loss (about 40 ml) and tissue disruption—forcing her to literally reconstruct her uterine lining by the conclusion of each reproductive cycle.

As such, menstruation is a very costly proposition. Along with the shedding of fresh blood, severe cramps surely rendered ancestral women more susceptible to grisly predation. But the most perplexing fact of all, perhaps, is that menstruation thwarts evolution's ultimate goal, pregnancy, for three to five days out of every reproductive cycle. All of which, in Barash's estimation, just screams for a barrage of scientific hypotheses.

First, menstruation could have served early humans as a signal to the woman that she wasn't pregnant. That would certainly have been a valuable thing to know in a world predating pregnancy tests. Or perhaps it was a signal to men that a girl had finally become a woman. "Logically unlikely," Barash teases. The costs are still too high. If the evolution-

ary goal was to signal no pregnancy, why not limit the physical damage to a bit of spotting, as with dogs? And if the objective was to reveal reproductive capacity to men, why not use something more akin to pheromones?

So is all hope lost for the signaling hypothesis? Maybe not. What if nature's ambition was a bit broader in social terms—to inform the entire tribe or clan, perhaps? Not so fast, Barash warns. Though competition among women is usually less violent than among men, it still exists. Indeed, in many species, dominant females will intimidate, attack, or otherwise inhibit the reproductive opportunities of their subordinates. That humans are among those species, Barash admits, remains an "unproven assumption." Even so, he says, young and thus vulnerable girls would always be well advised to conceal their reproductive viability.

Second, sex is a very messy business. Intercourse introduces foreign substances deep inside the female body, beyond the influence of her more common defenses. Sperm carry pathogens like *Chlamydia*, which causes pelvic inflammatory disease, and thrusting penises convey bacteria like *Streptococcus* and *Staphylococcus* beyond the vagina, where they pose little if any harm. Thus, some experts contend, the object of menstruation must be primarily hygienic—in other words, to cleanse the woman's upper reproductive tract.

But the "cleansing hypothesis" has its own set of shortcomings, according to Barash. Menstrual blood, for example, contains nutrients, including iron, that actually facilitate pathogen development. And although one might expect some correlation between menstrual intensity and pathogen load, none seems to exist. Or, if the uterus is unable to sense pathogen invasions, we might alternatively predict a similar relationship between menstruation and sexual frequency. But, again, the evidence just isn't there.

And if menstruation serves to diminish the uterine pathogen population, why does bacterial diversity actually expand following menstruation? Finally, determined proponents of the cleansing hypothesis should explain why women in traditional, non-technological societies who reproduce more frequently than their Western counterparts and, thus, experience fewer menstrual cycles, aren't more susceptible to uterine infections.

Yet a third possibility defines menstruation, somewhat more cynically, as a systematic competency test that essentially pits potential mothers against their weakest embryos. We know that humans invest more time and energy in each offspring, and take more risks in the process, than any other species. We recognize as well that for every successful pregnancy many "spontaneous abortions" are caused by the failure of embryos to implant in their hosts' uteruses. In addition, as implantation proceeds, embryos begin secreting human chorionic gonadotropin, a hormone that inhibits menstruation.

So perhaps, as Barash suggests, menstruation is "how a woman's body evaluates her would-be offspring and does so early in the 'investment' cycle, thereby minimizing wasted investment in case of a thumbs down." Evolution, in other words, may have selected against embryos whose burrowing or secretory capacities are found wanting.

But here's a surprise—the author remains unconvinced. The "evaluation hypothesis," he cautions, is unsupported by reality because, like the cleansing hypothesis, it should predict a link between menstruation and sexual activity. And what about other species that tend to invest heavily in individual offspring? Why, for example, don't elephants, blue whales, or manatees menstruate? "It's a mystery," Barash concludes. "Period."

So how should we regard these writers' and researchers' (let's say) abundantly creative explanations and methods? Is popular evolutionary science little more than lazy-minded speculation followed by impulsive waffling?

I certainly don't think so. Imagination and conjecture, after all, are the fertile soils in which truly great scientific ideas are often sowed. That these thinkers reconsider their original hypotheses and frequently conceive new ones is testament to their intellectual integrity. Besides, I'm a big fan of just about anything that makes evolution more fun and accessible for young people.

And what about the obsession—are we being exploited for our fascination with the tawdry and titillating? I don't buy that either. Indeed, why wouldn't any evolutionary science writer preoccupy herself with sex to some degree? For humans, heterosexual intercourse is the indispensable mechanism by which our evolutionary machine has functioned for millions of years.

Regardless, show me a person who isn't fairly obsessed with sex and I'll lift the cover and show you a toe tag. ■

Imagination and conjecture, after all, are the fertile soils in which truly great scientific ideas are often sowed. That these thinkers reconsider their original hypotheses and frequently conceive new ones is testament to their intellectual integrity.

[SKEPTICAL INQUIREE BENJAMIN RADFORD

Benjamin Radford is a research fellow at the Committee for Skeptical Inquiry and author or coauthor of six books, including *Tracking the Chupacabra: The Vampire Beast in Fact, Fiction, and Folklore.*

The Mysterious Bee Deaths

Q: According to news reports, the U.S. bee population has been decimated in recent months and years. Do scientists have any idea what's behind this mysterious die-off?

—D. Phillips

A: The collapse of bee colonies has worried biologists for years. Since 2006, between 20 and 40 percent of the bee colonies in the United States have suffered massive die-outs called "colony collapse." This is not an abstract or academic problem—it's an environmental and economic disaster. Honeybees pollinate $15 billion per year in crops and are essential for the health of many agricultural products.

Many explanations have been proposed for the unexplained deaths, ranging from pesticides to cell phone signals to climate change. As Liz Day (2010) of Discovery News noted, "scientists are fingering their latest culprit in the dramatic disappearance of honeybees: a fungus and virus team.… The virus affects bees' abdomens, often turning their tissues a purplish tone. The fungus, which also targets the bees' guts, is called *Nosema ceranae*. Combined, it seems the duo prevent bees from getting enough nutrition."

Research conducted jointly by Army scientists in Maryland and bee experts in Montana were published in the online science journal *PLoS One* (Bromenshenk et al. 2010).

> Exactly how that combination kills bees remains uncertain, the scientists said—a subject for the next round of research. But there are solid clues: both the virus and the fungus proliferate in cool, damp weather, and both do their dirty work in the bee gut, suggesting that insect nutrition is somehow compromised. [The] team at the University of Montana and Montana State University in Bozeman, working with the Army's Edgewood Chemical Biological Center northeast of Baltimore, said in their jointly written paper that the virus-fungus one-two punch was found in every killed colony the group studied. Neither agent alone seems able to devastate; together, the research suggests, they are 100 percent fatal. (Johnson 2010)

Though scientists have some important clues, a conclusive answer to the mystery remains elusive. Correlation does not imply causation, and just because all of the collapsed colonies had the virus and the gut fungus does not mean that the combination necessarily caused the bees to die. How these cause colony collapse—if in fact they do—remains unknown. ■

References

Bromenshenk, Jerry, Colin Henderson, Charles Wick, et al. 2010. Iridovirus and microsporidian linked to honey bee colony decline. *PLoS ONE* 5(10): e13181. doi:10.1371/journal.pone.0013181.

Day, Liz. 2010. Virus-fungus duo latest culprit in honeybee deaths. October 7. Online at http://news.discovery.com/animals/virus-fungus-duo-latest-culprit-in-honeybee-deaths.html.

Johnson, Kirk. 2010. With scientists, soldiers solve a bee mystery. *The New York Times* (October 7).

The Math Behind the Myths

CHARLES F. COOPER

Many people seek (and find) hidden codes in numbers, books, and images. To them the revealed messages are too unusual and infrequent to arise simply from chance and so must have hidden and prophetic meanings. But others dismiss the "solving" of such codes as meaningless number fiddling and claim any alternate and ambiguous interpretations negate any real meaning. Rarely does one side ever influence the other. But with computers on our desktops and compilers in our browsers, we should be able to come to some definitive conclusion if we revisit one of the classic "coding" cases.

The "code," of course, is Revelation 13:18. Even today many believe the verse is prophetic, and the number in the verse, 666, identifies the coming Anti-Christ. On the other hand, some serious biblical scholars interpret the verse as a historical reference to Nero since the emperor's Greek name and title, *Νέρων Καίσαρ*, codes to 666 using a traditional Hebrew numbering system. Removing the ending, *ν*, also lowers the number to 616, and indeed there are manuscript variants with that number.

That multiple names code to 666 is known (Gardner 1985). The prophetic interpretation, then, requires that the number of names be sufficiently small that eventually the "true" code can be deduced. Fortunately, the quantity of such names is something we can determine by considering the mathematics behind two typical coding methods proposed for the verse.

Simple arithmetic can show hidden codes are simply random phenomena.

In one method, the position of the letter in the alphabet is simply multiplied by a number. For instance, A = 6, B = 12, C = 18 … Z = 156 was a code circulated in the early 1970s when it was found the assignments summed the surname of then Secretary of State, Henry Kissinger, to 666.

Alternatively, the letter *A* can first be assigned a number and each successive letter then increased by a given amount. This method produces codes such as A = 100, B = 101, C = 102 … Z = 125. This too is a famous code and works for the name Hitler.

From simple algebra it can be shown that both methods arise from a single equation:

$$666 = m\Sigma b(i) + nc$$

Here *m* and *c* are integers, and *n* is the number of letters in the name. The summation, Σb(i), represents the addition of the alphabetic locations, or in English, b(A) = 1, b(B) = 2, b(C) = 3 … b(Z) = 26.

Then if m = 6 and c = 0, we have the "Kissinger" code. With m = 1 and c = 99, we have our code for Hitler. Therefore, anyone searching for the "hidden" name in Revelation 13:18 is actually looking for non-zero integer solutions for this or similar equations.

The problem is that single equations with multiple unknowns do not have unique solutions. True, the name Kissinger codes with m = 6 and c = 0, but also with m = 3 and c = 37. Hitler codes

to 666 with any one of nine solutions.

But more important, the primary variable, Σb(i), is not unique to any single name. So it isn't surprising that multiple names sum to 666. But what is surprising is just how many.

From a database of 18,839 American surnames (Census Bureau 2000) and with the computer searching for solutions for *m* and *c*, fully 81 percent of the names coded to 666. In addition, the code used for Kissinger was shared by seventy-two other names, and ninety-six names shared the code with Hitler—including that of the author! But the code where A=9, B=18, C=27 … Z=234 encompassed a whopping 340 names, including—ironically—the surname Jesus. Of course, by including first and middle names, initials, titles, and suffixes, virtually any name can, as Gardner pointed out, sum to 666.

If there is any question that we are simply seeing a chance phenomenon, a glance at the histogram of the principle variable, Σb(i), dispels any doubt. It is a textbook random Gaussian distribution. Of course, the randomly distributed variable will then produce randomly distributed codes.

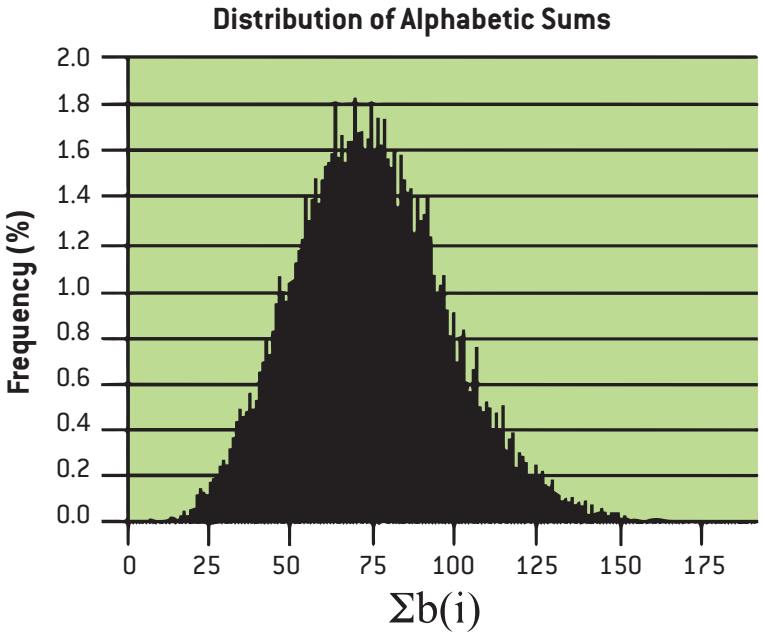
It remains a popular interpretation that Revelation 13:18 is a prophetic code for future generations, and that it identifies the coming Anti-Christ. But we have seen that any such code could never be deciphered due to the almost endless number of solutions that arise from chance alone. Fortunately, we have also seen that proper analysis of the underlying math can reveal how such "hidden codes" arise from random coincidence and not from design. ■

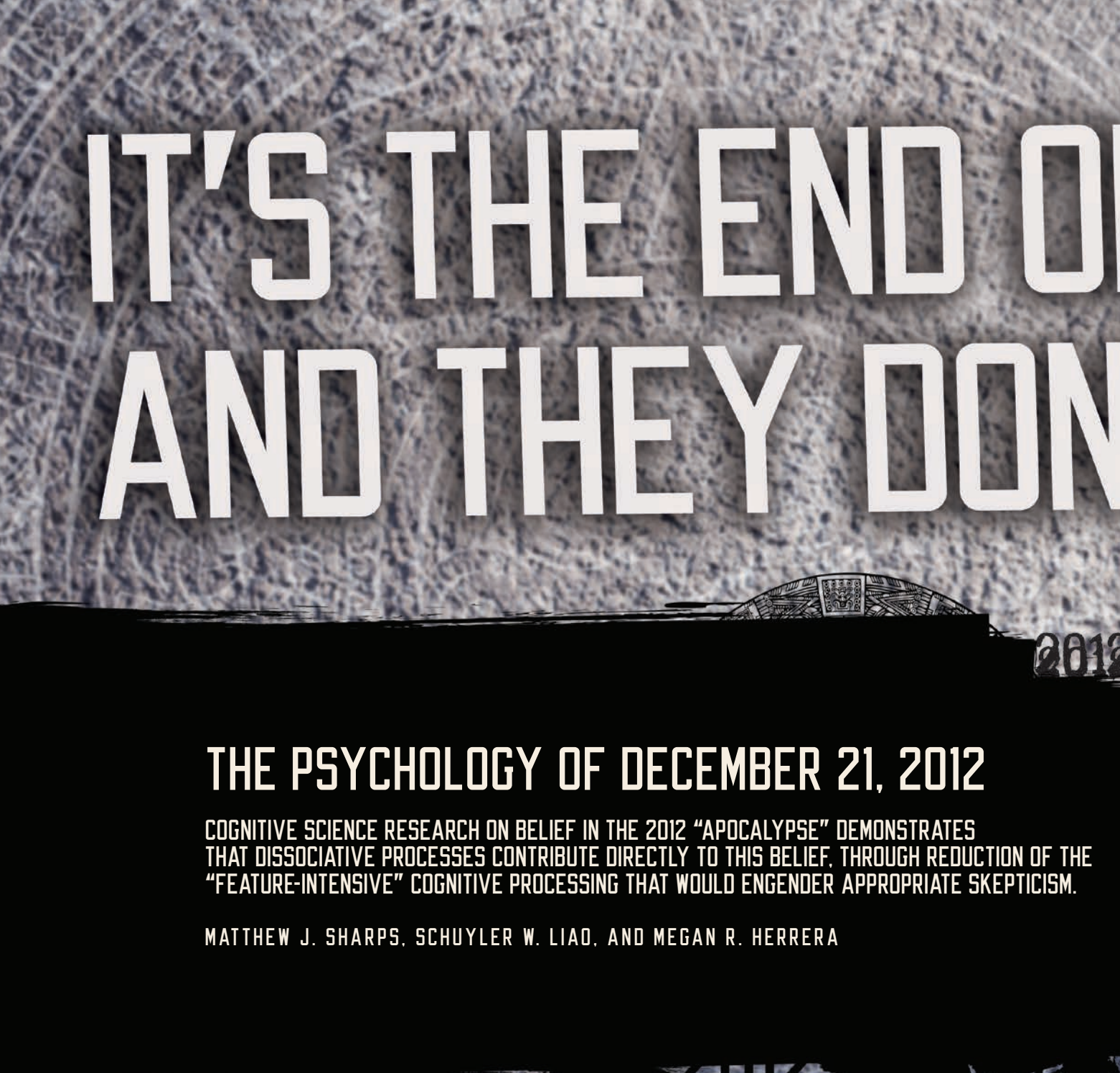
References

Gardner, Martin. 1985. *The Magic Numbers of Dr. Matrix*. Amherst, NY: Prometheus Books.

Census Bureau. 2000. Genealogy Data: Frequently Occurring Surnames from Census 2000. Online at www.census.gov/genealogy/www/data/2000surnames/index.html.

Charles F. "Chip" Cooper has worked for more than thirty years in industrial research and has a publication and patent list ranging from food chemistry to Monte Carlo methods for determining polymer structures. His cartoons have also appeared in various magazines, including the *Saturday Evening Post* and *Pour la Science*, the French edition of *Scientific American*.





THE PSYCHOLOGY OF DECEMBER 21, 2012

COGNITIVE SCIENCE RESEARCH ON BELIEF IN THE 2012 "APOCALYPSE" DEMONSTRATES THAT DISSOCIATIVE PROCESSES CONTRIBUTE DIRECTLY TO THIS BELIEF, THROUGH REDUCTION OF THE "FEATURE-INTENSIVE" COGNITIVE PROCESSING THAT WOULD ENGENDER APPROPRIATE SKEPTICISM.

MATTHEW J. SHARPS, SCHUYLER W. LIAO, AND MEGAN R. HERRERA

F THE WORLD,
'T FEEL FINE
2012
2012

The Earth's rotation, angle of inclination, and passage around the sun result in astronomical and meteorological regularities. These regularities allow us to use a variety of relatively arbitrary mathematical systems to provide dates for all sorts of useful things, such as the proper seasons for agriculture. In view of the arbitrary nature of these systems, however, it is reasonably obvious that specific dates within any given system have no particular significance for sweeping change in the human or natural realms.

This leads to a fascinating psychological question: Why do such arbitrary dates cause so many human beings to become so hysterical?

We are currently being told by some media sources that the world will end on December 21 of this year. It is suggested that this was predicted by the Maya, given that this date coincides with the end of a specific calendric cycle, a *baktun*, within their "long count." This date has also been suggested to coincide with a "galactic alignment," a phenomenon that would seem to rely more on vague terminology than on actual astronomy for its very existence (Krupp 2009), but that would, even if valid, have no terrestrial significance whatsoever. It is also true that there is at least one Maya document that mentions this date without affording it any apocalyptic significance whatsoever (Bower 2012).

However, we are also told that the same date was of significance for the Hopi people of the American Southwest. Of course, the Mexican (Aztec) *pochtecatl*, or long-range merchants, maintained a trade network that reached from the Maya country at least to the southern reaches of the American Southwest. It is not an impossible speculation that a few calendric ideas, together with tourmaline, obsidian, and Central American parrots, might have been passed along these trade routes.

Although this possibility presents an interesting question for archaeology, the alleged Maya/Hopi coincidence in dates simply doesn't provide sufficient cause to sell your house and move up into the mountains, away from this doomed civilization, with a rifle and a staggering number of canned goods. This is especially true in view of the fact that human beings have an abysmal record of predicting the future. Of course, this is not surprising, as the future hasn't happened yet. Even so, from the oracles at Delphi and Cumae all the way through the surprisingly inaccurate predictions of the precise consequences of climate change in the modern world, people have always sought accurate knowledge of the specifics of the future. Human beings have repeatedly failed, and these failures have occasionally been horrendously consequential.

THIS LEADS TO A FASCINATING PSYCHOLOGICAL QUESTION: WHY DO SUCH ARBITRARY DATES CAUSE SO MANY HUMAN BEINGS TO BECOME SO HYSTERICAL?

During the Greco/Persian wars, for example, the Delphic Oracle's prediction that the Athenians would be safe behind their "wooden wall" did not work out so well for the Athenians, who built such walls around the Acropolis and were promptly slaughtered by the Persians (wooden walls are amazingly flammable). This prophecy of wooden walls was immediately fine-tuned by the admiral Themistocles to refer to his ships at Salamis (Herodotus 2006); admittedly, they were made out of wood, but a ship is not a wall, and to claim them as such was, and is, something of a stretch.

Apocalyptic dates have come and gone many times. In recent years, we have

seen the "Heaven's Gate" hysteria (Vick 1997), in which people sold their possessions, gathered under a charismatic leader, and prepared to leave Earth in a UFO apparently hiding behind the Hale-Bopp comet (a physical impossibility). Physics aside, the Heaven's Gate devotees committed mass suicide so that at least their souls could travel to Heaven, Nirvana, or somewhere else, flying to this indefinable infinity in the company of hypothetical space aliens in their physics-proof starship.

The Y2K phenomenon provided another well-documented instance of apocalyptic revelation (Nolte 2009), in which many people sold all and headed for the hills because, somehow, all of our computers were going to fail, providing the basis for the death of civilization.

Obviously, these things didn't happen.

Despite these facts, however, many people remain wedded to the idea of apocalyptic prophecy. We are currently inundated with cable-television programs on the forthcoming end of the world. The authors, together with the rest of the world, have seen numerous documentaries "proving" the apocalyptic significance of December 21, 2012. These programs have roped in everything from the Maya and the Hopi to the predictions of Nostradamus and even the influence of space aliens.

What is the psychological basis for this phenomenon? What do people actually think is going to happen on December 21?

We decided to find out.

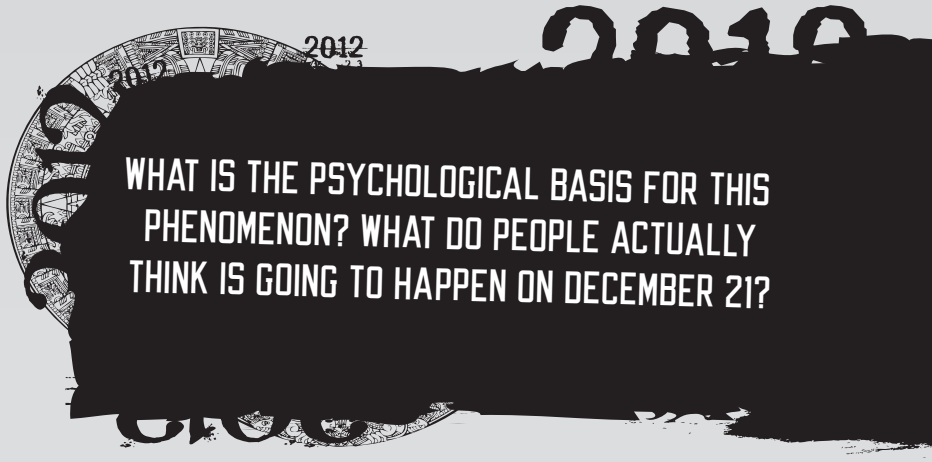
THE PSYCHOLOGY OF 2012

One hundred and ten college students at a California university completed several surveys in which they were asked to rate the degree of their belief that major world changes would happen on December 21, 2012. They were also asked about the sources of this belief; about their beliefs in a variety of related areas, including various kinds of prophecies; about their specific beliefs concerning what, precisely, is supposed to happen on the infamous date; and finally about their own characteristics. One of these characteristics lay in the realm of dissociation.

Dissociation was measured by means of the Dissociative Experiences Scale (DES), which directly addresses this psychological attribute. Dissociation leads to a diminished critical assessment of reality. As discussed in an earlier Skeptical Inquirer article (Sharps 2012), dissociated people may feel "strange" about themselves and the world around them. They may have anomalous perceptions of the passage of time or of their own experience. The world may appear to be "not quite real or . . . diffuse" (Cardena 1997, 400). Practically everyone feels this way, to a limited extent, from time to time; dissociation *per se* is not a mental illness. However, the disconnection with reality might incline those with even subclinical levels of dissociation—levels typical of many people in the general population and in no way diagnostic of mental illness—to view impossible or highly improbable things with an enhanced level of credulity (see DePrince and Freyd 1999).

Is this supposition correct? In previous published work (Sharps et al. 2006; Sharps et al. 2010), including a recent article in the Skeptical Inquirer (Sharps 2012), our laboratory addressed the role of dissociation in paranormal beliefs. We found that not only are the dissociated likely to believe in ghosts, aliens, and "cryptids" such as Bigfoot, but they are actually more likely to *see* these things, to interpret ambiguous stimuli as paranormal in nature. Where others see a hoax, the dissociated see Bigfoot. It is important to reiterate that dissociative tendencies are endemic in the general population; anyone, in any walk of life, may possess dissociative tendencies that influence the accurate judgment of reality.

Given the relationship between dissociative processes and beliefs in the "paranormal" realm, it was anticipated that people with dissociative tendencies would be prey to paranormal beliefs, such as those surrounding the 2012 phenomenon, at a higher level than those without such tendencies.


2012
WHAT IS THE PSYCHOLOGICAL BASIS FOR THIS PHENOMENON? WHAT DO PEOPLE ACTUALLY THINK IS GOING TO HAPPEN ON DECEMBER 21?

DO PEOPLE REALLY BELIEVE IN THE 2012 APOCALYPSE?

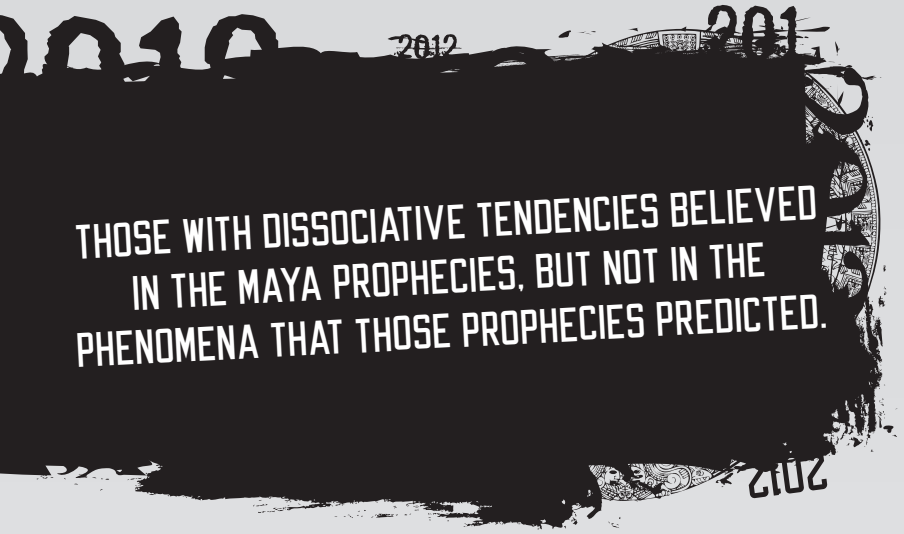
The population for this research, college students, is continually involved in the scientific evaluation of textbook information and media sources, together with courses that emphasize critical thinking. Even so, this population gave evidence of unexpected levels of credulity in the case of the 2012 apocalypse. When asked if "major changes" would occur as a result of December 21, 44.6 percent stated that they anticipated no such changes, or that such changes would be very unlikely. However, 9.8 percent anticipated such changes as either very likely or certain. 45.6 percent endorsed such changes as possible, without a strong opinion either way. The inference is that over half of this population, 55.4 percent, is at least somewhat influenced by the 2012 hype, either believing or at least entertaining the hypothesis that this date may result in major changes to Earth and to human ways of life upon it.

DISSOCIATIVE TENDENCIES

As suggested by our previous research, dissociative tendencies played a role in this phenomenon. A series of regression analyses was conducted, examining dissociation with reference to the variables discussed above.

There was some good news. Dissociative tendencies were *not* associated with belief that major changes, either physical or social, would occur. However, there was bad news as well: regression analyses showed that those with more dissociative characteristics tended to believe that Maya prophecies, together with the Maya calendar, *predicted these changes if they in fact occurred*.

More dissociated individuals did not endorse the predictive power of the Hopi prophecies, nor of biblical prophecies, nor such prophecies as those of Nostradamus. Nor were they more likely to believe in the return of Quetzalcoatl, other messiahs, or the advent of space aliens. Specific predictions of the apocalypse, including terrestrial causes such as global warming, also remained unendorsed. So did those of human origin (e.g., war, terrorism) and extraterrestrial origin (e.g., asteroids). However, dissociation did predict belief in the power of *unspecified* prophecies, including those that were "religious" or derived from "computer simulations."


2012
2012
THOSE WITH DISSOCIATIVE TENDENCIES BELIEVED IN THE MAYA PROPHECIES, BUT NOT IN THE PHENOMENA THAT THOSE PROPHECIES PREDICTED.

Taken together, these results provide a complex but revealing pattern. Although the dissociated did not evince belief in major physical or social changes as a result of December 21, they believed in the power of the Maya prophecies to predict these changes, an obvious cognitive incoherency. At the same time, no additional specific prophecies, other than those of the Maya, were endorsed. However, more general realms of prophecy (religious, computer, etc.) for which no specific features were provided were endorsed as having predictive power. How are we to explain this psychological pattern?

GESTALT AND FEATURE-INTENSIVE PROCESSES

In previous research (Sharps and Nunes 2002; Sharps 2003; Sharps 2010) we discussed a continuum in human information processing. This continuum ranges from *feature-intensive processing*, in which a given concept is subjected to the consideration of its specific features, to *gestalt processing*, in which such feature-based considerations are absent and therefore moot, and in which the logical consideration of specific details is reduced in favor of a more global, uncritical acceptance of the given phenomenon as a whole.

This continuum is strongly relevant to the pattern of results observed here. In the present research, we see a statistically significant relationship between dissociative tendencies and the tendency to process the 2012 phenomenon as a gestalt whole, without attention to the details (feature-intensive processing) that might otherwise give rise to an appropriate skepticism. This interaction of gestalt and dissociative processes appears to be a major source of credulity and to the essential *cognitive incoherency* that makes apocalyptic beliefs possible.

What is the evidence for this pattern of cognitive processing? As mentioned above, a major incoherency is immediate and obvious; dissociation led to an acceptance of the Maya prophecies of apocalypse, *even when there was no belief in the apocalypse predicted*. Those with dissociative tendencies believed in the Maya prophecies, *but not in the phenomena that those prophecies predicted*.

Also, there was a notable absence of feature-intensive processing in the cognitive systems involved. There was no endorsement of *specific* causes of change (e.g., war, global warming). In other words, when the specific causes of the apocalypse were "pinned down" in a feature-intensive manner, the dissociated were not inclined to believe that anything was going to happen. Even when the prophecies in question were specific (biblical, Nostradamus, etc.), no endorsement of the end of the world was forthcoming. However, when the prophecies were left without specificity (with only vague, gestalt references to "computers" or "religion"), dissociative tendencies predicted significant apocalyptic beliefs.

WHAT MAKES THE MAYA SO SPECIAL?

This argument might seem to be contradicted by the specific endorsement of Maya prophecies observed. However, "Maya prophecies" are a major emphasis of the vast corpus of apocalyptic nonsense currently infesting television and the Internet. According to the *availability heuristic* (Tversky and Kahneman 1973), sources of information that are relatively available are likely to influence human judgment even when there is no factual basis for this influence; and nonspecific, quasi-mystical references to the Maya are nothing, at the present time, if not available. Also, the average believer in these prophecies is typically not a Maya scholar. Lacking the feature-intensive information characteristic of the relevant expertise, it would be anticipated that, in general, the Maya references to 2012 would be processed by the average person in a gestalt manner, with an absence of the feature-intensive considerations that would engender reasonable skepticism.

IN SUMMARY

In this study, we have seen that dissociative tendencies, at a subclinical level and in the general population, incline people to cognitive incoherency; the dissociated believe in prophecies of apocalypse, even when they do not believe in the apocalypse itself. There is a belief in prophecies of the apocalyptic future, *even in the absence of belief that major physical or social changes will actually take place*.

How is this incoherency possible? The answer lies in gestalt/feature-intensive theory. Those who tend toward dissociation generally fail in the feature-intensive dynamics that would lead to appropriate skepticism. Rather, they deal in *gestalt* processing, in which the relative absence of definable features and cognitive structure makes it possible to hold conflicting thoughts simultaneously. In the present study, this was demonstrated in the rejection of specific apocalyptic considerations, even by the relatively dissociated, in favor of more amorphous, general predictions of doom. This was highlighted by general dissociated acceptance of the Maya prophecies, both because of the availability heuristic (Tversky and Kahneman 1973) and because of relatively nebulous and ethereal understanding of the specifics of Maya thought and culture.

HOW TO PROMOTE RATIONAL SKEPTICISM

These results provide a scientifically coherent explanation of current beliefs in the 2012 apocalypse. These beliefs have their source entirely in scientific human psychology, rather than in parapsychology or in unknown mystical factors. Of potentially greater importance, however, these results may also point the way to the reduction of absurd, mystical, or apocalyptic thinking in the future. It should be noted that even those of high degrees of dissociation did not endorse "prophecies" *when these were made explicit and amenable to feature-intensive processing*.

The implication here is that the key to the avoidance of superstitious thinking, including apocalyptic thinking such as in the current 2012 absurdity, lies in the promotion and facilitation of feature-intensive processing. If concepts are dissected in terms of their features, elements, and processes, there is no room for the vague, gestalt ideas that lead to such nonsense as the uncritical acceptance of such ethereal concepts as "Maya prophecies" and "the end of the world."

This idea is not unprecedented; a similar insistence on the specific (feature-intensive) definition of terms was demanded by Plato (Cornford 1957). However, in the present research, it is shown that such attention to detail, to the feature-intensive nature of argument, leads to the ability to reject such vague, gestalt concepts as "Maya predictions of the end of the world," and thus to the beginning and basis of rational consideration.

The implication is obvious. Better education in the scientific basis of reality, in the precise, feature-intensive consideration of facts, can reduce vague, gestalt processing, and can even provide a defense against the superstitious inclinations inherent in dissociative tendencies. It is hoped that the present results will incline educators to provide such feature-intensive analyses of ethereal and apocalyptic concepts, such as those inherent in the current 2012 hysteria, thus reducing the cognitive incoherency of those caught up in the hype, and further enhancing the rational consideration of the realities of the natural and social worlds. ■

References

Bower, B. 2012. Apocalypse not written in stone. *Science News* 182(3): 15.

Cardena, E. 1997. Dissociative disorders: Phantoms of the self. In S.M. Turner and Michel Hersen, eds. *Adult Psychopathology and Diagnosis*, third edn.: 400. New York: Wiley.

Cornford, F.M. 1957. *Plato's Theory of Knowledge.* London: Routledge & Kegan Paul.

DePrince, A.P., and J.F. Freyd. 1999. Dissociative tendencies, attention, and memory. *Psychological Science* 10(5): 449–452.

Herodotus. 2006, reprinted. *The Histories.* London: The Folio Society.

Krupp, E.C. 2009. The Great 2012 Doomsday Scare. Online at http://www.nasa.gov/topics/earth/features/2012-guest.html; accessed October 12, 2012.

Nolte, C. 2009. False alarm of millennium: Y2K cost counties millions. *San Francisco Chronicle* (December 12): A2.

Sharps, M.J. 2003. *Aging, Representation, and Thought: Gestalt and Feature-Intensive Processing*. Piscataway, NJ: Transaction.

———. 2010. *Processing Under Pressure: Stress, Memory, and Decision-Making in Law Enforcement.* Flushing, NY: Looseleaf Law.

———. 2012. Eyewitness to the paranormal: The experimental psychology of the "unexplained." SKEPTICAL INQUIRER 36(4): 39–45.

Sharps, M.J., J. Matthews, and J. Asten. 2006. Cognition, affect, and beliefs in paranormal phenomena: Gestalt/feature intensive processing theory and tendencies toward ADHD, depression, and dissociation. *Journal of Psychology* 140(6): 579–590.

Sharps, M.J., E. Newborg, S. Van Arsdall, et al. 2010. Paranormal encounters as eyewitness phenomena: Psychological determinants of atypical perceptual interpretations. *Current Psychology* 29(4): 320–327.

Sharps, M.J., and M.A. Nunes. 2002. Gestalt and feature-intensive processing: Toward a unified theory of human information processing. *Current Psychology* 21(1): 68–84.

Tversky, A., and D. Kahneman. 1973. Availability: A heuristic for judging frequency and probability. *Cognitive Psychology* 5(2): 207–232.

Vick, K. 1997. The purgatory behind Heaven's Gate: Ex-member breaks his silence on cult. *The Washington Post* (May 2): C1.

Matthew J. Sharps is professor of psychology at California State University, Fresno, and serves on the adjunct faculty of Alliant International University in forensic clinical psychology. He specializes in eyewitness phenomena and related areas in forensic cognitive science. He is a Diplomate and Fellow of the American College of Forensic Examiners and the author of over 160 publications and professional papers, including the 2010 book *Processing Under Pressure: Stress, Memory, and Decision-Making in Law Enforcement* (www.LooseleafLaw.com). He has consulted on eyewitness issues in numerous criminal cases.

Schuyler W. Liao and **Megan R. Herrera** are doctoral candidates in Forensic Clinical Psychology at Alliant International University, Fresno. Their research deals with information processing in relation to eyewitness cognition and in relation to such processing in clinical and courtroom settings.

Indignation Is Not Righteous

The Twin Fallacies of Appeal to Righteous Indignation and Appeal to Sanctity

Appeals to righteous indignation or sanctity—which attempt to shield ideas from contemplation, discussion, investigation, or criticism—are common, impede rational discourse, and should be recognized as logical fallacies.

GARY LONGSINE AND PETER BOGHOSSIAN

Riots erupted on the streets in Afghanistan in late February 2012 in response to an apparently accidental burning of a few copies of the Koran. Placed in an incinerator along with other materials confiscated from Taliban prisoners, the singed remains were discovered later by Afghan workers. Apologies from United States officials were immediately forthcoming. However, rioting continued and reports indicated that at least twenty-nine Afghans and six American soldiers were killed in the violence (Rubin 2012).

For many Muslims, including an influential council of Muslim scholars (Rubin 2012), the apology was greeted with righteous indignation. The response of the rioters was continued (and perhaps even intensified) rage, as demonstrated by the murder of people who had nothing to do with prior events. A second outbreak of such violence in Libya and other Muslim countries occurred in September 2012 after a virulent independent anti-Islamic video appeared on the Internet via YouTube.

The problem of righteous indignation is conspicuous in, but not unique to, the Muslim world—it permeates cultures across religious, ethnic, and national boundaries. The destruction of Andres Serrano's artwork *Piss Christ* by Catholic fundamentalist protesters in Avignon, France, is another well-known example.

Profound feelings of personal insult resulting from attacks on deeply held beliefs rank among the most pervasive, powerful, and potentially dangerous failures of human reasoning. This reaction carries with it both practical dangers that threaten harmonious interactions between and among peoples, and also the capacity to insulate not merely a person, but an entire culture, from criticism and self-reflection.

We argue that "Appeal to Righteous Indignation" and the related "Appeal to Sanctity" warrant recognition as fallacious types of reasoning and should be included in the larger lexicon of fallacies. (See "The Top 20 Logical Fallacies" by Jesse Richardson in the July/August 2012 SKEPTICAL INQUIRER for an overview of commonly recognized fallacies.)

Righteous Indignation: A Brief, Incomplete Genealogy

Righteous indignation, perhaps rooted in primitive instincts for social enforcement (Haidt 2001), appears to be an emotional response to perceived injustice (Haidt 2003; Dubreuila 2010; DeScioli and Kurzban 2009). The concept of "the sacred" appears to be more modern (Rossano 2006; Kirkpatrick 1999), but the impulse to sanctity may be rooted in emotions like disgust (as opposed to anger) (Rozin et al. 1999).

Science is only beginning to piece together the potential neurological basis for the impulse behind righteous indignation and its role in human behavior. Scientist and author David Brin, for example, has appealed to the scientific community to study righteous indignation more closely. Brin suggests that dogmatic thinking is driven by the emotional impulse to righteous indignation and the underlying brain biochemistry of behavioral addictive reinforcement (Brin 2011)—such as is involved in gambling (Blaszczynski et al. 1986).

In recent years, related phenomena (e.g., the role of punishment in the evolution of cooperation and the emotional basis of moral judgment) have been subjects of inquiry in anthropology (Sosis and Alcorta 2003), economics (Grant 2008), game theory (Dreber et al. 2008), psychology (Hunter 2005), and evolutionary psychology (Kirkpatrick 1999). Righteous indignation may have evolved to trigger participation in group punishment for non-compliance with group norms and influenced the evolution of cooperation (Boyd and Richerson 1992; Krebs 2008; Jaffe and Zaballa 2010). There is also a line of research literature suggesting some specific emotional foundations for moral behaviors, with indignation linked to anger, for example (Rozin et al. 1999).

Logical Fallacies:
Righteous Indignation and Sanctity

There exists no nonideological reason why any given idea or belief should be placed beyond contemplation, discussion, investigation, or criticism. Two logical fallacies are routinely employed to shield ideas from such inspection. In accordance with the custom of the taxonomy:

Appeal to righteous indignation (*argumentum ad probus indignatio*); and

Appeal to sanctity (*argumentum ad sanctimonia*).

An Appeal to Righteous Indignation is a logical fallacy in which a person claims to be offended, insulted, or hurt by criticism of a proposition they hold, or by the advancement of a proposition with which they disagree. The expected consequence of the demonstration of the verbal or physical behavior associated with righteous indignation is that no further discussion or criticism is allowed.

An Appeal to Sanctity is a logical fallacy in which a person attempts to deflect criticism of an idea by claiming that the idea or argument is holy, sacred, sacrosanct, or otherwise privileged and immune from critique.

A few possible rebuttals might be offered. It could be argued that an Appeal to Righteous Indignation is merely an appeal to emotion, which seeks to ignite an emotional response and dampen susceptibility to further reasoned discourse. It could be argued that an Appeal to Sanctity is merely an example of circular reasoning. The Appeal to Sanctity may be considered a compound fallacy, comprising an appeal to authority and emotion, at least to the extent that the ideas in question are associated with institutionalized dogma. However, the Appeal to Righteous Indignation and the Appeal to Sanctity have distinguishing traits.

The salient feature of an Appeal to Sanctity is that it is employed as a shield against the critique of an idea, or even a wholesale ideological critique. An Appeal to Sanctity is a claim that one must not critique an idea because the idea in question is sacrosanct, holy, or sacred. In other words, an Appeal to Sanctity, reduced to its simplest form, asserts *as a moral virtue* the claim that an idea is beyond critique. The circular appeal to special privilege frequently carries an implicit and credible threat of violence, for example, the decades-long aftermath of the fatwa against Salman Rushdie for his book *The Satanic Verses*, the Danish cartoon controversy, the murder of Dutch filmmaker Theo Van Gogh, Christian millennium terrorist plots in Israel, and the bombing campaign dubbed "saffron terrorism" in 2008 in Malegon, India.

An Appeal to Righteous Indignation similarly attempts to place an idea beyond the reach of critique, but it employs a different mechanism. Rather than suggesting that the idea itself is privileged and thus must be immune from criticism, an Appeal to Righteous Indignation implies that a critique of an idea is equivalent to an attack on a person. Intrinsic to an Appeal to Righteous Indignation is the notion that attacks on an idea are morally equivalent to (verbal or physical) attacks on people, that an attack on an idea justifies a response at least proportionate to an attack on a person. Credible threats of violence often accompany displays of righteous indignation and are sometimes viewed as justified by members of

There exists no nonideological reason why any given idea or belief should be placed beyond contemplation, discussion, investigation, or criticism.

the community. Consider the odd case of a man who burned a VFW flag in a drunken fit. He was taped to a flagpole for several hours the next day by an indignant VFW member, who then spoke about his actions openly to a local television reporter (Gardinier and Martínez 2009), apparently unconcerned about any possible legal repercussions.

Those who engage in these fallacies believe that becoming indignant, or refusing to question a particular belief, are virtues. In other words, one *should* become indignant, and not becoming indignant indicates a moral flaw in one's character; one *should* refuse to question privileged beliefs, and persistence in questioning represents a character defect.

In recent years a growing number of public intellectuals, including Richard Dawkins (Dawkins 1996), Salman Rushdie (Duffy 2004), and Douglas Adams (Adams 1998), have asserted the general fallaciousness of the Appeal to Sanctity, but no standard label exists, and no attempt to promote these as a standard part of the taxonomy of fallacies has been advanced.

The Harm

Righteous indignation undermines civil discourse and often corrodes efforts aimed at reasonable compromise. When righteous indignation is invoked, conversation stops and violence may begin. For the indignant party, reason may be suspended. Righteous indignation muddles thinking, elevates emotional reactions to primacy in the discourse, and displaces its alternative: impassioned, reasoned, thoughtful analysis.

Righteous indignation may be a valid emotional experience and response to injustice. As Greta Christina has observed (Christina 2007), anger can be an important tool for motivating social change. However, its use to shield ideas from criticism impedes rather than advances discourse. The Appeal to Righteous Indignation is therefore fallacious in the context of rational discourse.

The continuing demonstrations of the pervasiveness and disturbing nature of appeals to sanctimony and righteous indignation as primary or even sole arguments, and in an effort to end, rather than further, discussion in Afghanistan and elsewhere, make a compelling case for the urgency of this project. It may seem somewhat overdue to skeptics, atheists, and freethinkers that these classifications are necessary, but the cultural, social, and political world situation give these classifications an added urgency. ■

References

Adams, Douglas. 1998. Is there an artificial god? (Impromptu speech at Digital Biota 2, Cambridge, United Kingdom).Online at http://www.biota.org/people/douglasadams/; accessed February 26, 2012

Blaszczynski, Alex P., S. Winter, N. McConaghy. 1986. Plasma endorphin levels in pathological gambling. *Journal of Gambling Studies* 2: 3–14.

Boyd, R., and P.J. Richerson. 1992. Punishment allows the evolution of cooperation (or anything else) in sizable groups. *Ethology and Sociobiology* 13: 171–195.

Brin, David. 2011. An open letter to researchers of addiction, brain chemistry, and social psychology. Online at http://www.davidbrin.com/addiction.htm; accessed February 22, 2012.

Christina, Greta. 2007. Atheists and anger (blog post). *Greta Christina's Blog* (October 15). Online at http://gretachristina.typepad.com/greta_christinas_weblog/2007/10/atheists-and-an.html; accessed February 27, 2012.

Dawkins, Richard. 1996. Science, delusion, and the appetite for wonder. Online at http://richarddawkins.net/articles/3-science-delusion-and-the-appetite-for-wonder; accessed February 26, 2012.

DeScioli, P., and R. Kurzban. 2009. Mysteries of morality. *Cognition* 112: 281–299.Online at http://www.sas.upenn.edu/psych/PLEEP/pdfs/Kurzban%20DeScioli%20mysteries.pdf.

Dreber, Anna, David G. Rand, Drew Fudenberg, et al. 2008. Winners don't punish. *Nature Publishing Group* 452: 348–351.

Dubreuila, Benoît. 2010. Punitive emotions and norm violations. *Philosophical Explorations: An International Journal for the Philosophy of Mind and Action* 13: 35–50.

Duffy, Jonathan. 2004. The right to be downright offensive. *BBC News* (December 21). Online at http://news.bbc.co.uk/2/hi/uk_news/magazine/4114497.stm; accessed February 25, 2012.

Gardinier, Bob, and Humberto Martínez. 2009. Suspected flag burner pilloried: Alleged offender hunted down, ridiculed after incident at VFW post. *Times Union* (September 26). Online at http://www.timesunion.com/local/article/Suspected-flag-burner-pilloried-555979.php; accessed March 5, 2012.

Grant, Ruth. 2008. Passions and interests revisited: The psychological foundations of economics and politics. *Public Choice* 137: 451–461.

Haidt, J. 2001. The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review* 108: 814–834.

———. 2003. The moral emotions. In R.J. Davidson, K.R. Scherer, and H.H. Goldsmith (Eds.), *Handbook of Affective Sciences*. Oxford University Press (pp. 852–870). Online at http://faculty.virginia.edu/haidtlab/articles/alternate_versions/haidt.2003.the-moral-emotions.pub025-as-html.html.

Hunter, Richard. 2005. *Righteous Indignation: Driving Psychology*. Bloomington, IN: Author House.

Jaffe, Klaus, and Luis Zaballa. 2010. Co-operative punishment cements social cohesion. *Journal of Artificial Societies and Social Simulation* 13: 4. Online at http://jasss.soc.surrey.ac.uk/13/3/4.html; accessed February 23, 2012.

Kirkpatrick, L.A. 1999. Toward an evolutionary psychology of religion and personality. *Journal of Personality* 67: 921–952.

Krebs, Dennis L. 2008. Morality: An evolutionary account. *Perspectives on Psychological Science* 3: 149–172.

Rossano, Matt J. 2006. The religious mind and the evolution of religion. *Review of General Psychology* 10(4): 346–364. Online at http://www2.selu.edu/Academics/Faculty/mrossano/recentpubs/religious_mind.pdf.

Rozin, Paul, L. Lowery, S. Imada, et al. 1999. The CAD triad hypothesis: A mapping between three moral emotions (contempt, anger, disgust) and three moral codes (community, autonomy, divinity). *Journal of Personality and Social Psychology* 76: 574–586.

Rubin, Alissa J. 2012. Chain of avoidable errors cited in Koran burning. *New York Times* (March 2). Online at http://www.nytimes.com/2012/03/03/world/asia/5-soldiers-are-said-to-face-punishment-in-koran-burning-in-afghanistan.html?_r=1&ref=thereachofwar&pagewanted=all; accessed March 5, 2012.

Sosis, R., and C. Alcorta. 2003. Signaling, solidarity, and the sacred: The evolution of religious behavior. *Evolutionary Anthropology: Issues, News, and Reviews* 12: 264–274. Online at http://www.anth.uconn.edu/faculty/sosis/publications/sosisandalcortaEA.pdf.

Gary Longsine is an entrepreneur, information systems consultant, patent holding inventor in network security, and freethinker at large. He can be reached via email: gary.w.longsine@gmail.com.

Peter Boghossian is a full-time faculty member in Portland State University's Philosophy Department. His publication record and teaching areas are critical thinking and moral reasoning. He can be reached via email: pgb@pdx.edu.

Monsters and Dragons and Dinosaurs, Oh My

Creationist Interpretations of *Beowulf*

There is no field of inquiry that young-Earth creationists can't distort. In the area of literary and linguistic studies, they misinterpret, misrepresent, and mistranslate *Beowulf* to fit their agenda.

EVE SIEBERT

Most skeptics are familiar with the questionable nature of the scientific arguments made by young-Earth creationists—those who take the Bible literally and believe that Earth is less than ten thousand years old. What is less often appreciated is the violence some creationists wreak on works of literature and fine art, especially those that feature dragons and other monsters. In particular, *Beowulf* has recently enjoyed great popularity with creationists. For instance, Kent Hovind's now-defunct Dinosaur Adventure Land featured a Beowulf display,[1] and the Creation Museum in Kentucky has a statue of Beowulf over the door of its Dragon Hall Bookstore.[2] Curiously, creationists not only interpret the Bible as the literal, inerrant word of God, they read fictional works like *Beowulf* as literal, if not inerrant, accounts of actual events.

The most thorough creationist treatment of *Beowulf* appears in the book *After the Flood: The Early Post-Flood History of Europe Traced Back to Noah* by Bill Cooper, a trustee of the Creation Science Movement, the "oldest creationist movement in the world," according to its website (https://www.csm.org.uk/index.php). Cooper's primary purpose is to test the accuracy, veracity, and validity of the Table of Nations in Genesis 10 and 11 and, by extension, the rest of the Bible. He compares the Table of Nations, which describes the descendants of Noah's sons, with Celtic, Anglo-Saxon, and Scandinavian genealogies that trace various Euro-

pean dynasties back through a collection of pagan heroes and gods to a son of Noah, often one born on the ark. Cooper argues that these genealogies more or less accurately preserve pre-conversion traditions that are independent of the Bible. However, since they mention Noah, his sons, and the ark, Cooper interprets them as independent corroboration of the biblical account. In fact, the evidence suggests that Noah and his sons were a late addition to the genealogies.[3]

In the last two chapters, Cooper shifts from genealogies to stories of monsters and suggests that these monsters were actually dinosaurs. To Cooper, tales of dragons and sea monsters provide evidence that humans and dinosaurs lived at the same time and that Earth is therefore much younger than scientists will admit. *Beowulf* ties his themes together: it mentions the Flood and Cain; it refers to some of the characters who appear in the genealogies; and it contains monsters. As in the case of the genealogies, Cooper finds it necessary to move the date of *Beowulf* back to a time before the Anglo-Saxon conversion to Christianity. Indeed he argues that the "poem pre-dates the migration of the Saxons to these isles" (147). While the date of *Beowulf* is controversial,[4] such an early date is impossible. For one thing, the Anglo-Saxons began arriving in Britain in the fifth century, slightly *before* the main events of the poem unfold. Furthermore, if *Beowulf* is a continental composition, it is in the wrong language. Since it focuses on Scandinavian tribes, one would expect it to be in Old Norse or perhaps even Proto-Norse, but it's not: it's in *Old English*, a language that evolved in *England* after various tribes had migrated there from their continental homelands.

Cooper needs to push the date of *Beowulf* as far as he can into the past, partly so he can argue that the poem is independent of the Bible and Christian thought and therefore confirms the biblical account of the Flood, and partly so he can argue that it is a poetic but basically historical account of real people, real events, and real animals. He notes that the poem preserves "not just the physical descriptions of some of the monsters that Beowulf encountered, but even the names under which certain species of the animals were known to the Saxons and Danes" (150). In an appendix, he includes a list of "Zoologically applied terms in the Beowulf epic" (Appendix 10, 238–40). None of these resemble what we usually think of as zoological descriptions, and many of Cooper's translations, such as "devil," "demon," "fiend," "evildoer," "night evil," "wicked destroyer," "wicked ravager," and "unholy monster," belie his argument that *Beowulf* is a pre-Christian poem.

To Cooper, tales of dragons and sea monsters provide evidence that humans and dinosaurs lived at the same time and that Earth is therefore much younger than scientists will admit.

While *Beowulf* recounts stories of feuds, battles, and alliances, the poem focuses primarily on the protagonist's encounters with monsters. In his youth, the Geatish hero travels to the court of the Danish king Hroðgar to fight Grendel, who has been ravaging the hall and killing and eating the men. When Grendel's mother seeks revenge for her son's death, Beowulf tracks her to her lair and kills her as well. In his final battle, Beowulf, now an old king, faces a dragon that is attacking his own homeland. In addition to his main antagonists, Beowulf also encounters a number of sea serpents.

In his analysis of *Beowulf*, Cooper discusses words, phrases, and passages in some depth, giving the impression that he has some familiarity with Old English. In one instance, he provides his own translation of a short passage. The passage is not particularly difficult, and the gist of his translation is accurate enough but reveals that he does not actually understand how the language works.[5] Elsewhere, he relies on the translation by Michael Alexander, although it is not always clear from his citations when he is using Alexander's translation. He calls Alexander's translation "the best translation" of the poem (154).[6] To be clear, there is nothing wrong with Alexander's translation, but it is a *verse* translation, and Alexander uses poetic license in adapting the story. For a discussion of precise word usage, a verse translation is largely useless. For such a discussion, a fairly literal *prose* translation is necessary—at the very least. Much better would be a text in Old English that has a good glossary, such as an edition by Frederick Klaeber. Cooper cites and quotes Klaeber—and in places criticizes Klaeber's commentary—but to a large extent, he ignores Klaeber's glossary in favor of Alexander's translation. In doing so, he ends up making mistakes, such as discussing at some length the name of a sea serpent "species," unaware of the fact that the word he's discussing, *yðgewinn*, does

not refer to the creature but to its movement.[7]

Cooper turns Beowulf's three main antagonists into dinosaurs by interpreting poetic descriptions as zoological terms and cherry-picking details of a poetic translation, while giving the impression that the Old English text backs up his argument. Unsurprisingly, Cooper identifies the dragon as a pterosaur. More specifically, he believes the use of the term *widfloga* (far-flyer, ll. 2346, 2830) "would have distinguished this particular species of flying reptile from another similar species which was capable of making only short flights" (152). He therefore concludes that it is a pteranodon, despite the fact that pteranodon remains have been found exclusively in North America. In addition, the word *pteranodon* means a winged, toothless creature, while the dragon in *Beowulf* definitely has teeth. More importantly, he assumes that the creature can be identified as a specific animal based on a poetic description. Old English poetry is based on alliteration rather than rhyme. A poet may use many different terms to refer to the same creature, person, or object, often choosing the term that best fits the alliteration and meter. Occasionally, this can lead to confusion for the reader. For instance, in *Beowulf*, the terms "East Danes," "West Danes," "North Danes," and "South Danes" are all used to describe the same people. Both times *widfloga* occurs, it alliterates and fits the meter of the line.[8]

Cooper also mentions that the poet calls the dragon *ligdraca* or fire-dragon (ll. 2333, 3040),[9] but he does not explain how this appellation is appropriate to a pteranodon. The poet repeatedly associates the dragon with fire. It uses fire to wreak its vengeance on Beowulf's land, burning homes and killing people, and Beowulf has a shield of iron prepared to protect him from the dragon's flames. Yet the paleontological record is conspicuously silent about pterosaurs' ability to breathe fire.

Another notable characteristic of the dragon is its inordinate love of treasure. It had spent 300 years in its barrow, lying on its treasure until the theft of a single cup spurred it to fury. The love of treasure is common among Germanic dragons, mentioned in many Old English and Old Norse works. If the *Beowulf* poet were describing a real animal as Cooper claims, we would expect to find pteranodon bones on top of or near treasure hoards, yet the massive Anglo-Saxon treasure trove recently discovered in Staffordshire, England, is surprisingly free of pterosaur remains, as are the great ship burials, such as Sutton Hoo in England and Gokstad and Oseberg in Norway.

While the association between dragons and dinosaurs is common among young-Earth creationists, Cooper goes a step further and argues that the other monsters in *Beowulf* are dinosaurs as well: "Our attention must now be drawn towards another reptilian monster which was surely the most fiercesome [*sic*] of all the animals encountered by Beowulf, the monster called Grendel" (152–53). In the poem, the Danish king Hroðgar provides the following description of Grendel and his mother:

> Ðæra oðer wæs,
> .....
> idese onlicnæs; oðer earmsceapen
> on weres wæstmum wræclastas træd,
> næfne he wæs mara þonne ænig
> man oðer. (ll. 1349b-1355)

Cooper then provides Alexander's translation of the passage:

> [A]nd one of them
> .....
> was in woman's shape, but the shape of a man,
> though twisted, trod also the tracks of exile
> —save that he was more huge than any human being. (ll. 1348-52)[10]

"But," asks Cooper, "what exactly do the descriptive terms tell us that is of such importance? Simply this: that the female was in the shape of a woman . . . and the male was in the shape of a man. . . . In other words, they were both **bipedal**, but larger than any human" (155, emphasis in original). Actually that's not really what the description tells us at all. Alexander, presumably for poetic reasons, leaves out one word: *oðer*, "other" (l. 1355b). Grendel was larger than any *other* man. Cooper's entire argument hinges on the omission of one little adjective.[11] Grendel was abnormally large, but he was *man-shaped*,

and his mother had the likeness of a woman. Twice the *Beowulf* poet connects the Grendel-kin to the race of Cain (ll. 104–114, 1256–68), and several times he either calls Grendel a giant or associates him with giants.[12] Never does he describe them in a way that would suggest that they are reptiles. He calls the dragon *wyrm* (serpent) and *draca* and repeatedly refers to it as "coiled." Similarly, the water monsters (that are not called *yðgewinn*) are called *wyrm* and *draca*. No such terms are applied to Grendel or his mother.

Having turned more or less human creatures into mere bipeds, Cooper twists the description of Beowulf's battle with Grendel into something quite different from what the poet describes. Cooper says that the Danes "had themselves attempted to kill Grendel with conventional weapons. . . . Yet his impenetrable hide had defied them all, and Grendel was able to attack the Danes with impunity. Beowulf considered all this and decided that the only way to tackle the monster was to get to grips with him at close quarters" (155–56). In fact, Beowulf chooses to fight unarmed because he knows that Grendel does not use weapons. He regards it as a matter of honor (ll. 433–40).[13] It is only during his battle with Grendel's mother, to which he does bring a sword, that he discovers that the two are invulnerable to ordinary weapons.

Despite Beowulf's explanation for his actions, Cooper argues that it was a strategic position because "the monster's forelimbs .... were small and comparatively puny. They were the monster's one weak spot, and Beowulf went straight for them. He was already renowned for his prodigious strength of grip, and he used this to literally tear off one of Grendel's weak, small arms" (156). Cooper is coy about identifying what kind of dinosaur Grendel is. "Is there," he asks "a predatory animal from the fossil record known to us, who had two massive hindlegs and two comparatively puny forelimbs?" (159). He answers that there are several. After describing the species he refers to as "the Grendel" for another page, he concludes, "I doubt that the reader needs to be guided by me as to which particular species of predatory dinosaur the details of his physical description fit best" (160). Though he refuses to say it directly, he clearly means to imply that Grendel is a Tyrannosaurus Rex.[14]

The problem is that his description is inaccurate. The poet *never* says that Grendel's arms are puny, weak, or small, or that his hind legs are massive. As Cooper says, Beowulf's strength is prodigious: he is said to have the hand-grip of thirty men (ll. 379–80). Grendel immediately recognizes Beowulf's strength and wants to get away (ll. 750–56). Strictly speaking, Beowulf does not tear off Grendel's arm at all. Rather, it is the combined strength and determination of the two combatants that results in Grendel's injury. Beowulf is determined to retain his grip on Grendel, while Grendel is desperate to escape. In the end, both achieve their goals: Grendel flees to the mere, and Beowulf is left holding his arm.

Although Cooper misidentifies Grendel as Beowulf's most formidable foe (each fight is more difficult than the previous one),[15] he diminishes Grendel's significance and Beowulf's accomplishment by continuously misrepresenting the text. Cooper's Grendel is not only puny-armed but is "only a youngster, and not by all accounts a fully mature adult male of his species" (156). I'm not sure what "accounts" Cooper is reading, but the poem in no way supports his assertion. Gren-

del, as we have established, is much larger than any other man and unusually strong. He is not an immature, puny-armed T-Rex; he is a large, strong, man-shaped creature who has a taste for Danish.

Cooper's book may seem a slightly silly contribution to the creationist arsenal. Certainly, it is easy for anyone with a background in medieval history, languages, or literature to refute many of his arguments. Unfortunately, his target audience probably does not include many medieval scholars. Very few people have expertise in the medieval genealogies of Wales, Ireland, Anglo-Saxon England, or Scandinavia, for instance. The scholarly trappings of Cooper's work give it an air of authority, and it has become extremely popular among creationists. A Google search of the words "Beowulf" and "dinosaurs" returns over twelve million hits. Some of these sites refute creationist claims, but many are verbatim copies of all or parts of *After the Flood* or adaptations of it.

Most disturbingly, Cooper's ideas are repeated in works intended to educate children. Ruth Beechick recycles Cooper's arguments in "*Beowulf*: Fiction or History" on Crosswalk.com, a homeschooling site.[16] Although her language is geared toward young children, she follows Cooper's arguments very closely, occasionally adding her own errors.

Also aimed at homeschooled children is the "audio adventure," *Jonathan Park and the Hunt for Beowulf*. *The Hunt for Beowulf* is volume IV (of eight) of the Jonathan Park Adventures, radio dramas that are also sold as CD sets. The series is sold by Answers in Genesis[17] and the Creation Museum gift shop (as is *After the Flood*), was originally developed by the Institute for Creation Research,[18] and is currently produced by Vision Forum Ministries.[19] The series follows the Creation Response Team, led by Jonathan's father, Kendall Park, a paleontologist who, based on "scientific evidence," has converted from a belief in evolution to strict adherence to young-Earth creationism. In *The Hunt for Beowulf*, the Creation Response Team seeks to recover the stolen Beowulf manuscript, "the oldest English manuscript ever discovered."[20] The team is eager to find the manuscript (far more eager than either the British police or the British Library, apparently) because it contains evidence that dinosaurs and man lived together. As in Cooper's book, Grendel has been added to the list of (comparatively) modern dinosaurs. In the Jonathan Park adventure, he has also become a dragon. Each audio adventure comes with a substantial study guide that includes fun activities and much false information and pseudoscience. Earnest advertisements after each installment also encourage listeners to find more study material at www.jonathanpark.com.

Grendel, as we have established, is much larger than any other man and unusually strong. He is not an immature, puny-armed T-Rex; he is a large, strong, man-shaped creature who has a taste for Danish.

When creationists co-opt *Beowulf* as a tool for their agenda, they contribute to the misinformation they are providing their homeschooled children. *Beowulf* is twisted and mangled to accommodate pseudoscience and pseudo-history. Almost as disturbing is the way it limits the appreciation and understanding of one of the earliest masterpieces of our language. Literary criticism allows multiple interpretations of any work, as long as those interpretations can be supported by textual and contextual evidence. Creationists allow only one interpretation of *Beowulf*, and it is one that is in direct conflict with textual and contextual evidence. By trying to force the poem to fit a rigid and fallacious understanding of world events, creationists also ignore the literary merits of the work. Cooper condescendingly describes the poetic language of *Beowulf*: "The Anglo-Saxons (like the modern Germans and Dutch) had a very simple method of word construction, and their names for everyday objects can sometimes sound amusing to our modern English ears when translated literally. . . . It was thus an intensely literal but at the same time highly poetic language possessing great and unambiguous powers of description" (150). This definition of the language of *Beowulf* fits Cooper's agenda: the word construction is simple, and the descriptions are unambiguous, making his interpretations self-evident. In reality, there is much in *Beowulf* that is obscure or ambiguous, and the cultural and linguistic gap between modern readers and the poet makes interpretation all the more challenging. In addition, it is difficult to see how a poem that heavily employs kennings, a type of metaphor, can be considered "intensely literal," though Cooper's view may help us understand why he mistakes poetic descriptions for "zoologically applied terms."

Though Cooper and his followers may occasionally give lip service to *Beowulf's* poetic power, it is clear that to them, its only value is as a tool of indoctrination, and children cannot be trusted to interpret it for themselves. ■

Notes

1. See G. Martinez, "Stupid Dino Tricks: A Visit to Kent Hovind's Dinosaur Adventure Land," SKEPTICAL INQUIRER (November/December 2004): 47–51. Available online at http://www.csicop.org/si/show/stupid_dino_tricks_a_visit_to_kent_hovindrsquos_dinosaur_adventure_land/. In 2009, the park was closed down. It will be sold to help pay off the taxes owed by Hovind, who is currently in prison. In April 2010, Hovind's Creation

Science Evangelism ministry opened The Creation Store not far from Dinosaur Adventure Land. See http://www.dinosauradventureland.com/about DAL.php.

2. K. Ham, "Serbia and Beowulf," Around the World with Ken Ham, Answers in Genesis (September 30, 2008). Available at http://blogs.answersingenesis.org/blogs/ken-ham/2008/09/30/serbia-and-beowulf/.

3. In particular, most of the Old English accounts seem to date to the reign of Alfred the Great, the Christian king of Wessex in the late ninth century, and the Norse accounts are based in part on the English genealogies. See Anlezark (2002) and Faulkes (1983). Anlezark traces the Anglo-Saxon tradition of an ark-born son of Noah, and Faulkes traces the complex history of the Norse genealogies.

4. Most scholars place the composition somewhere between the eighth and late tenth or early eleventh centuries. Robert E. Bjork and Anita Overmeier discuss the dating in "Date, Provenance, Author, Audiences" in Bjork and Niles (1997).

5. Cooper translates lines 815b–818a as, "Searing pain seized the terrifying ugly one as a gaping wound appeared in his shoulder. The sinews snapped and the (arm-)joint burst asunder" (155). He assumes that the noun that precedes the verb in the first clause is the subject, and the noun that follows it is the direct object; in fact, the second noun is in the nominative case and must therefore be the subject. To accommodate the reversal of subject and direct object, he changes the meaning of the verb. Later he makes a plural noun singular. A more accurate translation of the passage is "The terrible, ferocious fighter experienced bodily pain; a very great wound became apparent on his shoulder; the sinews sprang asunder; the joints burst."

6. He says this specifically about the passage that describes Grendel and his mother. We will see why he favors Alexander's translation of this particular passage.

7. Cooper translates *yðgewinn* as "wave-thrasher" (51, 61 n. 9). It actually means "wave-strife," a kenning or short metaphor for "swimming." When shot with an arrow, the creature is "deprived of life, of wave-strife" (ll. 1432–35). "Wave-thrasher" comes from Alexander (l. 1433), although Cooper does not cite him in this instance. Alexander's version poetically captures the feel of the passage, but it is far from being a literal translation.

8. *Beowulf*, l. 2346: "þæt he þone **w**idflogan **w**eorode gesohte" ([Beowulf scorned] to attack the far-flyer with a war-band); l. 2830: "þæt se **w**idfloga **w**undum stille" (. . . so that the far-flyer, still from wounds. . .). Emphasis added to highlight alliteration.

9. The dragon is also called *fyrdraca* (fire-dragon, l. 2689).

10. When Cooper quotes Alexander, he prints the lines as prose, as he does with the Old English. This may be a quirk of formatting, but it disguises the fact that Alexander's translation is a non-literal verse translation. He also leaves out the subtitle "A Verse Translation" when he cites it (Cooper cites the 1973 edition, but it too was subtitled "A Verse Translation").

11. This omission is particularly glaring because, when Cooper quotes Old English, he transliterates *þ* and *ð* as *th*. Consequently, he includes the phrase, "thonne aenig man other," which is not difficult to translate into modern English; however, since he prints a large chunk of Old English (ll. 1345–54) as a block of italicized prose, with two phrases bolded (*idese onlicness*, the likeness of a woman, and *weres wæstmum*, the form of a man), it's unlikely that most readers will look too closely at it.

12. *Eoten*, ll. 761 and 112; *þyrs*, l. 426. In l. 112, giants (*eotenas*) are said to have sprung from the race of Cain, along with elves and monsters. The poet says that Grendel lived for a time among the race of Cain.

13. Beowulf says, in part, "I have also heard that the wretch, because of his recklessness, does not care about weapons. Therefore, I . . . scorn that I should bear sword or large shield, yellow shield, to battle, but rather I shall grapple with the fiend with my grasp." Later he says, "I do not claim for myself any lowlier battle-stature than Grendel [claims for] himself; therefore, I will not put him to sleep with a sword, deprive him of life, although I can" (677–80), clearly indicating that he doesn't realize that a sword would be useless against Grendel.

14. As with the pteranodon, the T. Rex has only been found in North America. In their book *Claws, Jaws, and Dinosaurs* (Pensacola: CSE Publications, 1999), born-again cryptozoologist William J. Gibbons and Kent Hovind echo Cooper's arguments concerning Grendel and the water monster, although they don't credit him. However, they suggest that Grendel was "the fearsome Megalosaurus, a dinosaur found in Britain and similar to Tyranosaurus-Rex [*sic*]" (19).

15. Beowulf successfully fights Grendel unarmed, but he brings a sword to face Grendel's mother. When that sword fails, he uses a magic sword he finds in her lair. For the fight with the dragon, he is fully armed and has a specially made shield. In addition, he is only able to overcome the dragon with the assistance of Wiglaf, and he is mortally injured in the battle.

16. The article is no longer on crosswalk.com's website. It is, however, available at http://www.christianity.com/1261413/, among other places. It was originally published in *The Old Schoolhouse Magazine*, another homeschooling resource. A review of Beechick's arguments appears in J.P. Walter, "Dinosaurs, Mnemonic Communities and Rewriting the Literary History of *Beowulf*," *Machina Memorialis* 31 Aug. 2006. Available at http://www.jpwalter.com/machina/archives/352.

17. Http://www.answersingenesis.org/PublicStore/product/Jonathan-Park-Complete-Audio-Series,5478,188.aspx.

18. Jonathan Park behind the Scenes: The Unofficial Website of the Jonathan Park Audio Adventures includes a video of the actors recording an episode at the Institute for Creation Research. Available at http://www.creationadventurefamily.com/jonathanparkbts.

19. Vision Forum Ministries discuss their views on education in "The Tenets of Biblical Patriarchy," http://www.visionforumministries.org/home/about/biblical_patriarchy.aspx.

20. The Beowulf manuscript, written c. 1000, is not the oldest English manuscript. Among the earliest copies of Old English poetry are texts of "Cædmon's Hymn" included in Latin copies of Bede's *Ecclesiastical History of the English People*. Cambridge, University Library MS kk 5 16 and St. Petersburg, National Library of Russia MS lat. Q.v.I.18. Both date to the eighth century. Possibly even earlier is the Ruthwell Cross, which preserves part of the Old English poem *The Dream of the Rood*. This, however, is not a manuscript, but a runic inscription on a stone cross. There are prose works that pre-date *Beowulf* as well. For instance, Bede's *Ecclesiastical History* was translated into Old English in the late ninth or early tenth century. All four major Old English poetic codices (the Beowulf MS, the Exeter Book, the Vercelli Book and Oxford, Bodleian Library MS Junius 11) date from roughly the same period.

References

Alexander, Michael, tr. 2003. *Beowulf: A Verse Translation*. Rev. ed. London: Penguin. Cooper cites the original edition from 1973.

Anlezark, Daniel. 2002. Sceaf, Japheth and the origins of the Anglo-Saxons. *Anglo-Saxon England* 31: 13–46.

Bjork, Robert E., and John D. Niles, eds. 1997. *A Beowulf Handbook*. Lincoln: University of Nebraska Press.

Cooper, Bill. 1993. *After the Flood: The Early Post-Flood History of Europe Traced Back to Noah*. Chichester: New Wine Press.

Faulkes, Anthony. (1978–79) 1983. Descent from the gods. Orig. published in *Scandinavia* 11: 92–125. Corrected and revised version available from the Viking Society for Northern Research Web Publications at http://www.vsnrweb-publications.org.uk/Descent-from-the-gods.pdf.

Fulk, R.D., Robert E. Bjork, and John D. Niles, eds. 2008. *Klaeber's Beowulf and The Fight at Finnsburg*. 4th ed. University of Toronto Press. All quotations are from this edition. This updated edition is based on Fr. Klaeber's 3rd edition (1950) with first and second supplements (Lexington, MA: Heath), the edition Cooper cites, although he prints the lines as prose. All translations are mine unless indicated otherwise.

Eve Siebert has a PhD in English literature, specializing in Old and Middle English and Old Norse. She teaches at the University of Wisconsin–Eau Claire. She and Bob Blaskiewicz co-edit the blog skepticalhumanities.com and are co-writing a book called *Was Shakespeare an Alien? Skepticism and the Humanities*. She appears on the weekly webcast *Virtual Skeptics* (virtualskeptics.com) with Brian Gregory, Tim Farley, Sharon Hill, and Bob Blaskiewicz.

Mystics, Mycobacterium, and the Gospel of Matthew

Mycobacterium has plagued humanity for millennia and is singled out in the Christian Bible (as leprosy). Today, two thousand years later, Christians contend that the Bible holds clues for cures and miracles relevant to combating infectious disease. The persistence of Biblical commentary on evidence-based healthcare raises a worrisome red flag.

C.A. PORTER

Of Microbes and Men

Where would you place your faith in a cure for tuberculosis? On September 6, 2010, the *New York Times* published an article updating the world on a novel tuberculosis detection device (Xpert MTB/RIF) developed by Cepheid and funded by the National Institutes of Health (NIH) and the Bill & Melinda Gates Foundation (McNiel 2010). The new test was hailed by the *New England Journal of Medicine* as a breakthrough for detecting multi-drug resistant tuberculosis, specifically the strain resistant to Rifampicin. One day later, halfway across the world in a destitute village in Southeast Asia, as reported by Aid to Special Saints in Strategic Times, an unnamed, unspecified, TB-positive elder was miraculously cured of tuberculosis through divine intervention in the name of Jesus Christ by a missionary sponsored by an evangelical organization based in Carrollton, Texas (ASSIST News Service 2010). Did the divinity of the Gospels truly channel divine will to heal this man? From a scriptural stance, yes, of course, particularly so because of God's long-standing feud with tuberculosis. Validations for faith in this vein are of growing concern right here in the United States.

The first microbe to have the dubious honor of supposedly being exorcised out of a patient by an Abrahamic prophet was the causative agent of leprosy (and similarly its sister disease, tuberculosis), *Mycobacterium leprae*, and one can only wonder what the little mycobacterium must have thought about having the Light of God channeled through its peptidoglycan membrane. According to the Gospel of Matthew, the prophet Jesus miraculously healed an afflicted leper by laying his hands upon the man and commanding him to be healed (Matthew 8:1–4). The Gospel of Matthew exists as a cornerstone for Christian theology and continues to deliver advice and allegory on how to live a healthy life. Yet miracles are by definition extraordinary and unique, and so reliance upon divine intervention pales in comparison to the repeatability of modern medicinal science. Indeed, evidence-based medicine has left religious supporters right where they believe they have come from: in the dust.

Consider as an example of faith that for 1,957 years after Christ came, mycobacterium continued to ravage humanity, with only one recorded miraculous curing. Prior to the invention of Rifamycin in Milan in 1957 as a treatment for mycobacterium, humanity had suffered from tuberculosis and leprosy for millennia, with tubercular decay

found in Egyptian mummies entombed as early as 2400 BCE (Zink et al. 2003). Lacking germ theory or natural ideas for origins of diseases and their transmissions, early man naturally used religion as an alternative explanation for infectious diseases. As medical science has progressed since our earlier history, the discovery of a pivotal drug against mycobacterium has dramatically and reproducibly accelerated cure rates for leprosy and tuberculosis, as well as eliminating mengingococci from carriers. On the side of the prophets, one may wonder why more prophets with such miraculous healing powers had not been sent down by God in the meantime as a way of healing the sick until antibiotics had been invented.

But Christianity has not given up its claim to cleanse the body from diabolical bacteria. With thousands of generations of people affected by the beliefs of a handful of Mesopotamian artisans already inculcated with religious explanations for disease, the role of religion has not retreated from medicine. This is in spite of Christian miracle-working's complete inability to fulfill any one of Koch's Postulates.

The persistence of religion in matters of health and healing raises an obvious, if not inconvenient, red flag for modern practitioners: if faith cannot explain disease or proffer treatments, then why is faith being encouraged to comment on medical matters in academic and clinical settings? One wonders which our little mycobacterium is more apt to fear: the Light of God or the administration of an antibiotic.

But Christianity has not given up its claim to cleanse the body from diabolical bacteria. With thousands of generations of people affected by the beliefs of a handful of Mesopotamian artisans already inculcated with religious explanations for disease, the role of religion has not retreated from medicine.

Tuberculosis: 2,010 Years Later

As the United States continues to absurdly trumpet its piety as a Christian nation (and a faithfully illiterate one at that, according to an embarrassing study put out by the Pew Forum in 2010), calls for incorporating Christian doctrine in hospitals and clinics as alternatives or as complements to medicine have stepped up in frequency. But clinicians, and hopefully the patients themselves, can see that there is no practical use for adopting Christian

theology as a parallel to medicine, no matter how many "faith-based" initiatives push for faith's legitimacy in the exam room. Faith is perfectly fine outside the hospital, but when faith is placed on the same high grounds as scientific medicine on the surgery table, the patient ultimately suffers.

The enthusiastic inclusion of religion in the clinic—nominally passed over as only cultural sensitivity but with deeper Christian undertones—does exist as an espoused contender for a patient's attention and choice as a therapy. So acting as the devil's advocate, why should faith be singled out and excluded from legitimacy as an augmentation to medical treatments, particularly against infectious disease? Because faith does not faze unbelieving, heathen bacteria in the slightest, as our model organism of mycobacterium reveals with further investigation.

Mycobacterium's Immunity to Divinity

The consequences for reliance on faith at the expense of medical science can indeed be dire. On May 31, 2002, a twenty-four-year-old Oklahoma woman died eleven months after diagnosis of tuberculosis, having refused available treatment. She instead had paid a priest to pray over her during her sickness and had insisted to providers that divine intervention would save her (Killacky 2002). The late evangelist Oral Roberts subscribed to a literal scripture interpretation to mean that divinity can, and does, cure disease, and he had established a career as a television preacher praising divine intervention as the therapy that had cured him of his tuberculosis at age seventeen (Fox News 2009). This concept of disease being caused by spiritual forces and hence susceptible to spiritual exorcisms is found in the opening pages of the Gospel of Matthew: "And when [Jesus Christ] had called unto him his twelve disciples, he gave them power against unclean spirits, to cast them out, and to heal all manner of sickness and all manner of disease" (Matthew 10:1). All one has to do is pray for health and if God judges the prayer worthy, Christian apologists assure the sick and afflicted that by God's grace they will be healed.

A petition for divine intervention on behalf of curing illness is among the oldest and most widespread practices intended to alleviate suffering and disease. Prayer is arguably the oldest petition in the Christian tradition and is certainly the most portable (sacrifices require additional effort and preparation, but these, too, are not without reported divine favor [Luke 22:19, Corinthians I 5:7, Hebrews 10:12]). Prayer in the clinical setting has been investigated *ad nauseum* from the standpoint of scientists with limited, if any, positive implications on patient recovery. Recently the *Cochrane Review* published a double-blind study on the salutary effects of intercessory prayer (n = 7,646 patients) for the comparison effects of prayer versus standard care alone and concluded that there existed "no clear effect of intercessory prayer on death" (Roberts et al. 2009). But from a biblical point of view, prayer and petitions to the divine boast salubrious effects—"boast" being the operative word.

Praying to cure illness is advocated in the New Testament in multiple places (James 5:13, 5:16; Isaiah 59:16; Acts 4:29–31; Corinthians I 12:9), and if Matthew is any authority on the matter then reported accounts of praying to Jesus Christ for healing have yielded Christians miraculous results, including a cure for blindness (Matthew 21:14), resuscitation from death (Matthew 9:21–22), cessation of epilepsy and paralysis (Matthew 4:24), relief from demonic infestation (Matthew 4:24, 8:16), and cures for numerous undisclosed afflictions (Matthew 9:35, 12:15, 14:14, 14:36, 15:28), all in addition to combating mycobacterium. Moreover, intercessory prayer has a testimonial applauding its ability to alleviate sickness at a distance (Matthew 8:5–13). Petitions to the divine for assistance with combating disease are understandable—because ancient peoples had no knowledge of bacteria or viruses or protozoa—but ultimately seem incredulously superstitious now that we know better.

The intersection between faith and medicine today is a bewildering one. Two hundred years of marvelous advancements in microbiology, evolutionary theory, and immunology have greatly expanded our concepts of disease and have afforded humanity an effective arsenal with which to defend, and thereby extend, our lives. Yet we also arrive at a time when faith is being actively pushed as an alternative or as a complement to these scientific and medical achievements. What we need more of is science, not blind faith. Questioning wisdom in the Gospels is the first step toward alleviating medicine from the specter of the Holy Ghost and would reaffirm commitment to delivering patients only the best evidence-based practice. ■

References

ASSIST News Service. 2010. Bedridden man now walks. (October 7). Online at http://www.assistnews.net/Stories/2010/s10090032.htm.

Fox News. 2009. Oral Roberts dead at 91. Fox News Corporation (December 15). Online at www.fox23.com/news/local/story/Oral-Roberts-Dead-At-91/-Vh1jSScYEKP10HTSjZrqA.cspx.

Killackey, Jim. 2002. Tuberculosis sufferer dies in quarantine. *The Oklahoman* (May 31).

McNiel, Jr., Donald G. 2010. Tuberculosis: Automated test for drug-resistant TB gives results in hours, not weeks. *New York Times*. Online at www.nytimes.com/2010/09/07/health/07global.html.

Pew Forum on Religion & Public Life. 2010. U.S. religious knowledge survey. Online at http://pewforum.org/Other-Beliefs-and-Practices/U-S-Religious-Knowledge-Survey.aspx.

Roberts, L., I. Ahmed, S. Hal, et al. 2009. Intercessory prayer for the alleviation of ill health. *Cochrane Database of Systematic Reviews* 2009, Issue 2. Art. No.: CD000368. DOI: 10.1002/14651858.CD000368.pub3

Zink, A. C. Sola, U. Reischl, et al. 2003. Characterization of *Mycobacterium tuberculosis* complex DNAs from Egyptian mummies by spoligotyping. *Journal of Clinical Microbiology* 41(1): 359–67. DOI:10.1128/JCM.41.1.359-367.2003. PMID 12517873.

C.A. Porter is a graduate of the University of California at Davis with a degree in cellular biology. Faith in medicine is an important issue to him, especially its impact on American health care. He is working toward a master's degree in this field.

The Secret Life of J. Allen Hynek

According to legend, the astronomer J. Allen Hynek was a skeptic before becoming an outspoken UFOlogist, but is the legend true? This article takes a look at Hynek's unusual life and career.

JOHN FRANCH

It was a "road to Damascus" experience for the *Mad Men* era. In 1966, the respected astronomer J. Allen Hynek had gone—seemingly overnight—from a determined debunker to an ardent apostle of the UFO gospel. A longtime consultant to Project Blue Book noted for his skeptical stance toward UFOs, Hynek suddenly began telling anyone who would listen that the UFO phenomenon merited serious scientific scrutiny. The great director Stanley Kubrick was among the many who listened. In a 1968 *Playboy* interview promoting his science-fiction epic *2001: A Space Odyssey*, Kubrick spoke approvingly of what he termed Hynek's "belated but exemplary conversion" (Phillips 2001, 58).

In fact, the professor's apparent transformation from skeptic to UFO proponent was not quite the conversion event that it appeared on the surface. Since his teens Hynek had been an enthusiastic though closeted student of the occult. The French-born Jacques Vallee, a computer scientist and UFO author, was one of the few persons who knew Hynek's secret. Hynek once told Vallee that he had become an astronomer in order to discover "the very limitations of science, the places where it broke down, the phenomena it didn't explain" (Vallee 1996, 232). Nonetheless, the scientist's public U-turn gave a big boost to the UFO movement, lending it a measure of credibility, and made Hynek into a celebrity as the nation's "foremost expert on flying saucers" (O'Toole 1966). For two decades people could point to Hynek and say, "He's a trained scientist, an astronomer no less: if even he believes in this UFO stuff then there must be something to it."

Who was Josef Allen Hynek? He was born on Chicago's West Side on May 1, 1910, only a little over a week after Halley's Comet had swung around the sun. Hynek's Czech-born father made cigars for a living while his mother, Bertha, taught at a local grammar school. Josef credited his mother for his early interest in astronomy.

"When I was seven, I had scarlet fever and was quarantined with my mother in our apartment at 15th and Ayers," Hynek explained. "There was nothing to do except read, and since I was so young, my mother read to me. Pretty soon we ran out of children's books and she started reading textbooks. Among them was a high school astronomy book. I guess it interested me the most" (Berland 1962).

Maybe astronomy textbooks didn't give him the answers he wanted, and so, as a bookish teenager, Hynek began to study what he called "esoteric subjects." After reading widely in the occult, he developed a particular fondness for the writings of the Rosicrucian secret societies, with their tantalizing promises of hidden ancient knowledge, and those of the so-called hermetic philosophers, especially Rudolf Steiner.[1] The high schooler spent over $100—roughly $1,300 in today's dollars—to purchase the Canadian mystic Manly Hall's massive, richly illustrated tome *An Encyclopedic Outline of Masonic, Hermetic, Qabbalistic and Rosicrucian Symbolical Philosophy: Being an Interpretation of the Secret Teachings Concealed within the Rituals, Allegories and Mysteries of All Ages*, better known simply as *The Secret Teachings of All Ages*. "All my student friends thought I was crazy: why didn't I buy a motorcycle instead, as they all did," Hynek later told Jacques Vallee (Vallee 2010, 64–65).

Hoping to discover "the very limitations of science," Hynek decided on a career as an astronomer. After receiving his bachelor's degree from the University of Chicago in 1931, Hynek went on to pursue a doctorate in astronomy. He worked on his doctoral thesis—"A Quantitative Study of Certain Phases of F-Type Spectra"—at the Yerkes Observatory, a Romanesque temple of astronomy on the serene shores of Lake Geneva in Wisconsin.

"The whole thing had a sort of mystical quality," Hynek would later revealingly refer to his monastic existence at Yerkes. "One shouldn't say that in connection with science, I guess, but I was so utterly absorbed in the life of the observatory that I had hardly heard of Hitler" (Ridpath 1973, 423).

Shortly after receiving his PhD in 1935, Hynek obtained a position as an

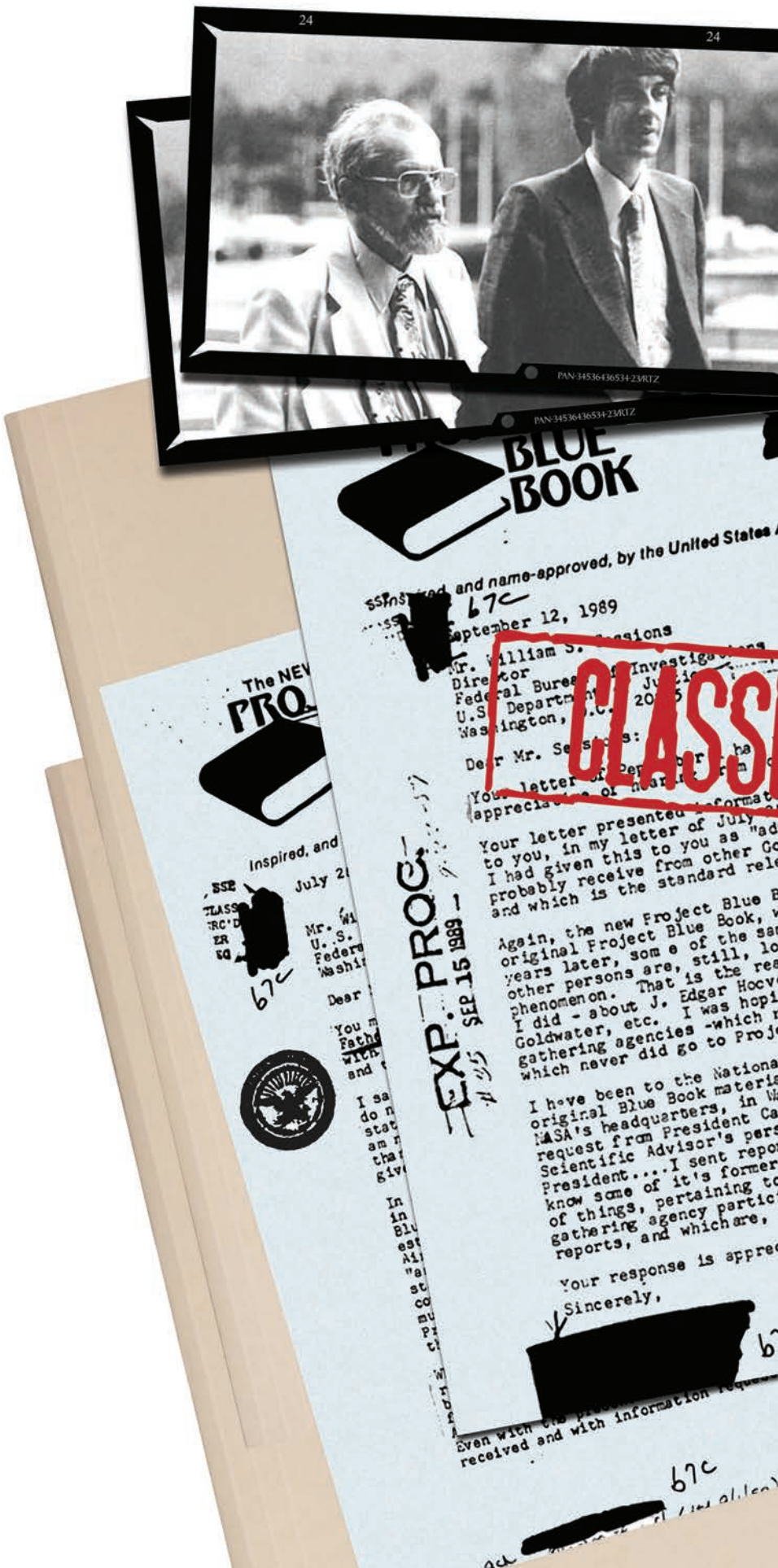
instructor at Ohio State University and four years later became a professor there. He was still teaching at Ohio State in 1948 when a trio of Air Force officials approached him: They were looking for a scientist to help them with a puzzling problem that had recently cropped up (Ridpath 1973, 422–24).

On June 24, 1947, a salesman by the name of Kenneth Arnold reported seeing a formation of shiny objects pass in front of Mount Rainier while he was flying his private plane. In the weeks following Arnold's alleged sighting, hundreds of persons claimed to observe similar "flying saucers." Fearful that that these so-called "saucers" might be Soviet aircraft, U.S. Air Force officials formed Project Sign early in 1948 to investigate the phenomenon. Hynek was recruited to be the project's astronomical consultant.

In his role as Project Sign's scientific advisor, Hynek made periodic trips from Columbus to Wright Patterson Air Force Base (where Project Sign and its successors, Projects Grudge and Blue Book, were based) to examine the UFO case files. He proved to be a shrewd and relentless debunker, a Sherlock Holmes of sky phenomena. "I'd go through them and say, 'Well, this is obviously a meteor,' or 'This is not a meteor, but I'll bet you it's a balloon,'" he recalled in 1985. "I was a thorough skeptic, and I'm afraid I helped to engender the idea that it must be nonsense, therefore it is nonsense" (Weintraub 1985, 74).

One of Hynek's earliest efforts at debunking—and one of his most famous—concerned the 1948 case of Captain Thomas Mantell, an Air Force pilot who, while investigating a UFO, died when his P-51 Mustang crashed. In his report of the incident Hynek suggested that the UFO may have been Venus, even though, as he later admitted, the planet would have been too faint to be seen in the bright daylight sky (Ruppelt 1956, 41–47). The astronomer had another—probably correct—theory on that case: the UFO Mantell observed and pursued too high was a Skyhook balloon (Vallee 1987, 72).

Hynek at first figured flying saucer sightings were merely "a post-war craze that would disappear as quickly as the hula-hoop" (Hall and Connors 2000, 240). But the UFO reports kept on coming as Project Sign turned into Project Grudge in 1949



Hynek in *Close Encounters of the Third Kind.*

and then into Project Blue Book in 1952. During the latter year a wave of UFO sightings prompted Hynek to begin reconsidering his views on the subject. He openly speculated that UFOs might be a new kind of natural phenomenon he dubbed "nocturnal meandering lights" (Swords and Powell 2012, 191). The astronomer's change of mind was so apparent that Captain Edward Ruppelt, the first director of Project Blue Book, judged Hynek to be "very much pro-UFO" (Hall and Connors 2000, 205, 212).

Hynek later attributed this shift in his thinking to two things:

> One was the completely negative and unyielding attitude of the Air Force. . . . Everything had to have an explanation. I began to resent that, even though I basically felt the same way, because I still thought they weren't going about it in the right way. Secondly the caliber of the witnesses began to trouble me. Quite a few instances were reported by military pilots, for example, and I knew them to be fairly well trained, so this is when I first began to think that, well, maybe there was something to all this. (Stacy 1985)

As early as 1960, Hynek had begun to argue behind the scenes that UFOs deserved serious scientific scrutiny. "I need only remind you," he wrote to an Air Force official that year, "that less than two centuries ago the entire province of meteorites was kept out of legitimate astronomy because stories of 'stones that fell from the sky' were regarded as old wives tales. Had these accounts been given careful attention by the scientists of that day, the productive branch of astronomy which we now know as meteoritics would have been born well over a century earlier than it was" (Hynek 1960). Hynek would often cite this incident from the history of astronomy to justify himself when he later became an outspoken UFO proponent.

Hynek's true views on UFOs were still unknown to the public when the astronomer, now teaching at Northwestern University, first met Jacques Vallee in the fall of 1963. Taking a job as a computer programmer at Northwestern, Vallee became a close friend of Hynek and soon they formed a UFO discussion group: The astronomer would eventually nickname this group "the Invisible College" (Vallee 1996, 270)—a term first used by the Rosicrucians in the early 1600s. Vallee began prodding Hynek to break with the Air Force and publicly admit that the UFO phenomenon was real and worthy of serious scientific investigation. Project Blue Book's longtime scientific consultant—still known as a staunch UFO debunker—stubbornly resisted this advice (Vallee 1996, 80–94).

Hynek had a lot to lose. He enjoyed a respectable reputation in the astronomical world: while he had a sizeable number of journal articles on stellar astronomy to his credit, he was better known for his work behind a desk than for his labors in front of a telescope. He had been a director of the McMillin Observatory in Ohio, a co-director of the Operation Moonwatch satellite tracking program, secretary of the American Astronomical Society, and the guiding force behind the Project Sky Gazer balloon astronomy program (Ridpath 1973, 422–24). He understandably wasn't eager to risk his name—and his career—in the interest of UFOs. The astronomer was waiting, in Vallee's words, for "the single big case that no one would be able to deny because the evidence would be overwhelming" (Vallee 1996, 96).

And then, on April 24, 1964, the single big case arrived, or so it seemed. In Socorro, New Mexico, police officer Lonnie Zamora was chasing a speeder in his squad car when he suddenly heard a roar and noticed a flame in the sky. Investigating, Zamora spotted an egg-shaped, "aluminum white" object with legs that extended to the ground, and he noticed two white-cloaked figures nearby. As the officer cautiously approached it, the object began to bellow, and Zamora high-tailed it back toward his car. The UFO then ascended into the sky and soon disappeared from view (Hynek 1972, 144–45).

Badgered by the news media, Major Hector Quintanilla, Project Blue Book's director, reluctantly dispatched Hynek to Socorro to investigate the alleged sighting. At the landing site Hynek examined charred plants and four impressions that had been left in the ground and persuaded Zamora to reenact the events (Huyghe 2001, 317–18). The astronomer left New Mexico "more puzzled now than I arrived," he confessed to a reporter, but he was convinced that Zamora had indeed seen something (*Chicago Tribune* 1964).[2]

Hynek and Vallee frequently discussed the Socorro case, but the astronomer was still unwilling to publicly come out as pro-UFO (Vallee 1996, 118). Things changed in the spring of 1966. On March 20 of that year, dozens of persons reported viewing glowing objects hovering over a swamp near Ann Arbor, Michigan, and the following night, eighty-seven students at Hillsdale College, also in Michigan, claimed to have seen strange red, white, and blue lights. The Michigan sightings received massive media coverage, and Major Quintanilla once again sent Hynek out into the field. The professor

rushed out to Michigan and conducted his investigation in an atmosphere of "near-hysteria," dogged almost every step of the way by reporters and cameramen. After interviewing thirty-two witnesses and conferring with several University of Michigan professors, Hynek concluded that at least two of the Michigan UFOs may have been manifestations of swamp gas (Hynek 1966a, 20).

On March 26, Hynek announced his findings at a packed press conference in Detroit—supposedly "the largest in the history of the Detroit Press Club" (House of Representatives 1966, 6006). After suggesting swamp gas as a likely explanation for some of the Michigan UFOs, Hynek stressed that he could not prove "in a court of law that this is the full explanation of these sightings" (*Los Angeles Times* 1966). The media mostly ignored this qualifier and Hynek immediately became a national laughingstock for his swamp gas theory, lampooned in cartoons and lambasted in editorials as a puppet of the Air Force (Huyghe 2001, 9–10).

Hynek's swamp gas theory also attracted the notice—and the ire—of Gerald Ford, the powerful Republican congressman from Michigan and future president. In response, Ford promptly requested the U.S. House Armed Services Committee to investigate the UFO phenomenon, believing that "the American public deserves a better explanation than that thus far given by the Air Force"—meaning the explanation given by Hynek (House of Representatives 1966, 6047). The wish of the House minority leader was equivalent to a command and so the UFO hearing took place only one week after Ford had made his request.

On April 5, 1966, Hynek made his first public break with the Air Force, boldly using the occasion of his testimony before the Armed Services Committee to do so. Stung by the "swamp gas" criticism, the astronomer apparently wanted to show that he wasn't the Air Force's or anyone else's puppet. In a statement not cleared by Major Quintanilla, the Project Blue Book director, Hynek told the sitting congressmen that there were aspects of the UFO phenomenon "worthy of scientific attention," and he called for the creation of a panel of physical and social scientists to seriously analyze what he termed the "UFO problem" (House of Representatives 1966, 6007–6008).

"The swamp gas episode boomeranged like hell on me and the Air Force," Hynek later explained his about-face. "I began to feel guilty about my skeptical attitude. And once you open the gates to the possibility that all these people can't possibly be mistaken, then you see a lot of other cases in a totally different light" (Huyghe 2001, 33).

As we have seen, Hynek's "skeptical attitude" was in fact a façade for public consumption. A longtime student of the occult, he happened to be very open to outré notions: he, for example, believed that there were planes of existence beyond the physical, and he even endorsed alleged instances of "psychic surgery" and "psychic photography" (Vallee 1996, 240, 306). But it took the media furor over the "swamp gas episode" for an angry and embarrassed Hynek to publicly air his long-held views on UFOs.

It was a risky move for Hynek but not as risky as it would have been a few short years before. Since then his astronomical career had stalled in a big way.[3] In 1957, Hynek launched in collaboration with the Air Force a program for balloon-based astronomy—later named Project Star Gazer. The plan was to send telescope-equipped balloons high above the image-distorting lower layers of the atmosphere. Unfortunately, a series of failed test launches prompted the Air Force to scrap Project Star Gazer in 1963. The decision was devastating for Hynek, who seems to have bet his professional career on the success of the project. In a scathing final report to the Air Force the astronomer didn't hold back. "In any event," he wrote, "the setting aside of a project which had engaged so many for such a length of time, at a time when success seemed assured, can only be listed in the scientific annals as a criminal act, and one carried out in a callous, cavalier manner without regard for the desires, objectives and ideals of the people involved" (Hynek 1966b). Was Hynek's emergence into the open as a pro-UFO crusader partly an attempt, whether subconscious or not, to get back at the Air Force for torpedoing Project Star Gazer?

Hynek had chosen the biggest megaphone he could find to announce his new career as a UFO advocate: He sent a bombshell letter to the prestigious and widely read journal *Science* in which he argued that UFOs merited scientific investigation.

As Hynek had recommended during his congressional testimony, the Air Force soon funded a scientific study of UFOs and the renowned physicist Edward U. Condon, of the University of Colorado, was chosen to direct it. After three contentious years, the Condon Committee concluded in 1969 that "further extensive study of UFOs probably cannot be justified in the expectation that science will be advanced thereby" (Hynek 1972, 192–93). Hynek predictably dismissed the committee's report, calling it "a waste of time" (Kotulak 1969), but the Air Force went ahead anyway and closed Project Blue Book later that year. The professor was now on his own as a UFO investigator.

Back in 1966, Hynek had chosen the biggest megaphone he could find to announce his new career as a UFO advocate: He sent a bombshell letter to the prestigious and widely read journal *Science* in which he argued that UFOs merited scientific investigation. The *Science* editors grudgingly published the letter but only after the astronomer had leaked its contents to the *Chicago Sun-Times* (Vallee 1996, 222). Hynek subsequently wrote articles on UFOs for

such national publications as *The Saturday Evening Post*, *The New Yorker*, and even *Playboy*, and he became a ubiquitous presence on television and radio shows. "Media men hire Allen as they would hire a guitar player," Jacques Vallee wrote in his journal. "He rushes wherever he sees a spotlight, and if the spotlight moves, he moves with it" (Vallee 1996, 259).

Hynek's fame came at a great cost: he lost the respect of his peers in the scientific community. "His colleagues' attitude towards him is changing to the point of contempt, and this pains him," Vallee noted in 1968. "He is no longer taken seriously among astronomers" (Vallee 1996, 339).

Determined to prove his colleagues wrong, Hynek began working on a book that he said would take a scientific approach to the study of UFOs. Published in 1972, *The UFO Experience: A Scientific Inquiry* argues for the reality of the UFO phenomenon in a dry, matter-of-fact manner. The book is most noteworthy for its classification of certain UFO reports into Close Encounters of the First Kind (sightings), the Second Kind (sightings with physical effects), and the Third Kind (sightings of UFO occupants) (Hynek 1972, 86).

Unfortunately for Hynek, *The UFO Experience* did further damage to his academic standing. According to an astronomer friend of Vallee, Hynek's book "created antagonism among the (Northwestern) Faculty and made him a controversial figure. In spite of a fair review in *Science Magazine*, many professors have felt that the reputation of the school was tainted" (Vallee 2010, 156). Indeed, speaking for his faculty colleagues in 1982, the dean of Northwestern's College of Arts and Sciences categorically declared to a University official: "We are not, have not been, and will not be proud of Hynek's UFO affairs. There are many who think that what he's up to has nothing to do with research" (Weingartner 1982).

Hynek may have genuinely wanted to restore his scientific standing, but his behavior during the 1970s certainly didn't help matters. The bespectacled, goateed astronomer was a familiar sight to television viewers of the era, pontificating on the "UFO problem" on programs ranging from *The Dick Cavett Show* to *In Search Of*. Late in 1973, he endorsed the alien abduction claims of two Pascagoula, Mississippi, shipyard workers, saying the men had "a very real experience" (*Los Angeles Times* 1973). He joined a UFO panel formed by the *National Enquirer*: $50,000 was to be awarded to "the first person to prove to the panel that UFOs are from outer space and are not natural phenomena" (Dick 1972). Near the end of the decade Hynek even made an eight-second cameo appearance in Steven Spielberg's *Close Encounters of the Third Kind* (Huyghe 2001, 32). He was also a popular figure on the lucrative college lecture circuit. He later boasted to a friend "that each one of my lectures brings me more than my monthly pay from Northwestern" (Hynek 1978).

Hynek's extracurricular activities did not endear him to the Northwestern University administration. In the fall of 1973, following a wave of alleged sightings, the astronomer formed the Center for UFO Studies to serve as a clearinghouse for UFO reports. He hoped that the Center could be located on the Northwestern campus, but university officials adamantly rejected this idea. School administrators insisted that there be no connection whatsoever between Northwestern and the UFO center; Hynek was not even allowed to use his Northwestern mailing address for any Center-related correspondence. Eventually protesting, the professor fired off a series of angry letters. "Frankly, I am quite embarrassed to have to say that the University has been so conservative as to not see the potential here, both for science and for publicity," he raged in one letter. "And, of course, I personally resent the implication that the subject is sheer nonsense and that anyone connected with it is a crackpot (speaking bluntly!)" (Hynek 1974).

After he retired from Northwestern in 1978, Hynek devoted much of his time to the Center for UFO Studies. Despite having a good track record as a fundraiser—he had obtained money from private donors for Northwestern's Lindheimer Astronomical Research Center—Hynek struggled to put his UFO center on a secure financial footing: Wealthy would-be benefactors frequently tantalized him with offers of monetary support only to let him down in the end. Finally in 1984, Hynek packed up his research files and relocated his UFO center to Scottsdale, Arizona, having been lured there by a rich Englishman with promises of money and the use of his "quite luxurious" home (Witt 1984). Once again the astronomer was doomed to disappointment: this particular patron "was only interested in keeping a few scientists in his entourage to promote his personal theories about the (UFO) phenomenon," Jacques Vallee maintained (Vallee 1996, 423).

Hynek was often evasive when asked to give his own theories on the nature of UFOs. Despite his cameo in 1977's *Close Encounters of the Third Kind*, he had by then rejected the notion that UFOs were "nuts and bolts" spacecraft piloted by extraterrestrials (Gardner 1997, 247). His occult studies had pointed him in a very different direction. As early as 1967, he speculated that UFOs might be "observational devices that are materialized into our world by the denizens of another" (Vallee 1996, 306). He later offered a variation on this theory: UFOs as "psychic projections" created by an "extradimensional intelligence in some parallel reality" (Gardner 1997, 253). Speaking to the UFOlogist Jerome Clark, Hynek was more specific. The astronomer allegedly told Clark that he believed "elementals"—nature spirits—were behind the UFO phenomenon (Clark 1998).

It is easy to question the veracity of Clark's startling claim, but it makes sense when one realizes that Hynek was strongly influenced by Rudolf Steiner, the Austrian mystic. Steiner argued that the hard sciences merely offer humankind "a vast amount of popular information." By employing sense-free thinking, the enlightened individual, on the other hand, could "pierce the veil" and discover what lay behind the material world revealed by science. In Steiner's view, elementals—spirits of air, earth, water, and the ether—dwelled in this hidden realm

inaccessible to the senses. If Hynek did indeed believe that UFOs were nature spirits, he may have specifically identified them with this last class of elemental—the etheric "beings of the higher elements." Steiner claimed that "what exists in the sky is not merely the physical sun, but that with the sun's warmth and light etheric beings stream down to earth" (Steiner 1922). Did Hynek suspect that UFOs were Steiner's "etheric beings" streaming down to Earth?

For those very few who knew of Hynek's fascination with the occult, his 1975 piece on Johannes Kepler—the great seventeenth-century astronomer—in the journal *Vistas in Astronomy* had an extra meaning. In this eye-opening, one-page article Hynek argued that science historians are wrong to dismiss Kepler's practice of astrology as merely something he did to keep alive. "Both his [Kepler's] astrology and astronomy grew out of and partook in large measure of his deep mystical outlook," Hynek (1975) wrote. He went on to assert that modern astronomy, with its exotic concepts like quasars, pulsars, and black holes, offered "a broad playing field for the metaphysicist." According to Hynek, there was a "tenuous bond" linking present-day astronomy's metaphysical thinking and Kepler's brand of metaphysics, with both systems of thought being "the repository of fundamental questions not entertained on the present playing field of physical science" (Hynek 1975, 455). Hynek apparently saw Kepler as a kindred spirit, and, in this article, he was defending not only Kepler's beliefs but his own.

"I have never stopped thinking about what must lie beyond all this," Hynek once remarked to Vallee in Colorado as he sweepingly gestured toward the Rockies and the Great Plains (Vallee 1996, 232). For the professor, UFOs represented the "beyond," that point where science could not reach. Having become an astronomer in order to discover the limits of science, Hynek wanted, maybe even needed, to believe in UFOs. It was a case of wishful thinking.

Hynek died of a brain tumor at Memorial Hospital in Scottsdale, Arizona, on April 27, 1986 (Folkart 1986). Halley's Comet was then making its return appearance after a seventy-six-year journey through the solar system. Like Mark Twain, Josef Allen Hynek came into the world with the great comet, and he went out with it as well. ■

Notes

1. Rudolf Steiner (1861–1925) was an Austrian-born mystic who propagated a belief known as anthroposophy or spiritual science. According to Robert McDermott, the purpose of anthroposophy was "to bring to humanity an entirely new capability—knowledge of the spiritual world by conscious sense-free thinking" (McDermott 1984, 3). In his classic *Fads and Fallacies in the Name of Science*, Martin Gardner called Steiner's Anthroposophical Society "the fastest growing cult in post-war Germany" (Gardner 1957, 169).

2. In a recently unearthed 1968 letter, the then-president of the New Mexico Institute of Mining and Technology indicated to the chemist Linus Pauling that the Zamora episode was in fact a hoax perpetrated by a student (Sheaffer 2010, 25).

3. According to the SAO/NASA Astrophysics Data System, out of the over 100 astronomical publications Hynek had to his credit, only about a dozen appeared after 1966. Nearly one-half of these dozen articles related to Image Orthicon—a ground-breaking system using television technology to boost the light grasp of telescopes that Hynek helped develop in the 1950s and 1960s (Smithsonian Astrophysical Observatory/National Aeronautics and Space Administration, N.d.).

References

Berland, Theodore. 1962. New look at the stars. *Chicago Tribune* (December 9).

Chicago Tribune. 1964. Probe flying object reports in 2 states. (May 1).

Clark, Jerome. 1998. UFO UpDates Mailing List, December 1. Online at http://www.cohenufo.org/Hynek/clark_re_hynk2.htm.

Dick, William. 1972. Letter to J. Allen Hynek dated February 11. J. Allen Hynek Papers. Northwestern University Archives, Evanston.

Folkart, Burt. 1986. J. Allen Hynek dies; led AF investigation of UFOs. *Los Angeles Times* (May 1).

Gardner, Martin. 1957. *Fads and Fallacies in the Name of Science*. 2nd ed. New York: Dover Publications.

———. 1997. *The Night Is Large: Collected Essays, 1938–1995*. New York: St. Martin's Griffin.

Hall, Michael David, and Wendy A. Connors. 2000. *Captain Edward J. Ruppelt: The Summer of the Saucers—1952*. Albuquerque, New Mexico: Rose Press International.

House of Representatives. Armed Services Committee. 1966. *Unidentified Flying Objects*. 89th Cong., 2nd sess., Committee Print No. 55.

Huyghe, Patrick. 2001. *Swamp Gas Times: My Two Decades on the UFO Beat*. New York: Paraview Press.

Hynek, J. Allen. 1960. Letter to Brigadier B.G. Holzman dated February 17. J. Allen Hynek Papers. Northwestern University Archives, Evanston.

———. 1966a. Are flying saucers real? *Saturday Evening Post* (December 17).

———. 1966b. Scientific Report on Project Star Gazer: Final Technical Report. July. J. Allen Hynek Papers. Northwestern University Archives, Evanston.

———. 1972. *The UFO Experience: A Scientific Inquiry*. Chicago: Henry Regnery Company.

———. 1974. Letter to John E. Fields dated November 18. J. Allen Hynek Papers. Northwestern University Archives, Evanston.

———. 1975. Kepler's astrology and astronomy. *Vistas in Astronomy* 18: 455.

———. 1978. Letter to John E. Fields dated September 7. J. Allen Hynek Papers. Northwestern University Archives, Evanston.

Kotulak, Ronald. 1969. U.F.O. report rapped as 'waste of time.' *Chicago Tribune* (May 18).

Los Angeles Times. 1966. Air Force investigator blames swamp gas for 'flying saucers.' (March 26).

———. 1973. Recent UFO sightings: reports, answers—and a few mysteries. (October 18).

McDermott, Robert A., ed. 1984. *The Essential Steiner: Basic Writings of Rudolf Steiner*. San Francisco: Harper & Row.

O'Toole, Thomas. 1966. Can't shrug off UFOs, says saucer expert. *Washington Post* (October 26).

Phillips, Gene D., ed. 2001. *Stanley Kubrick: Interviews*. Jackson, Mississippi: University Press of Mississippi.

Ridpath, Ian. 1973. The man who spoke out on UFOs. *New Scientist* 58 (May 17): 422–24.

Ruppelt, Edward. 1956. *The Report on Unidentified Flying Objects*. Garden City, New York: Doubleday.

Sheaffer, Robert. 2010. Famous Socorro 'UFO landing' a student prank? Skeptical Inquirer 34(2): 25–27.

Smithsonian Astrophysical Observatory/National Aeronautics and Space Administration Astrophysics Data System (ADS). N.d. Online at http://adswww.harvard.edu/.

Stacy, Dennis. 1985. Close encounter with Dr. J. Allen Hynek. CUFON: The Computer UFO Network. Online at http://www.cufon.org/cufon/hynekint.htm.

Steiner, Rudolf. 1922. The elemental world and the future of mankind. May 28. Rudolf Steiner Archive. Online at http://wn.rsarchive.org/Lectures/19220528p01.html.

Swords, Michael, and Robert Powell. 2012. *UFOs and Government: A Historical Inquiry*. San Antonio, Texas: Anomalist Books.

Vallee, Jacques. 1987. *UFO's in Space: Anatomy of a Phenomenon*. New York: Ballantine Books.

———. 1996. *Forbidden Science: Journals 1957–1969*. New York: Marlowe & Company.

———. 2010. *Forbidden Science: Journals 1970–1979*. 2nd ed. San Francisco: Documatica Research.

Weingartner, Rudolph. 1982. Letter to Chuck Loebbaka dated May 11. J. Allen Hynek Papers. Northwestern University Archives, Evanston.

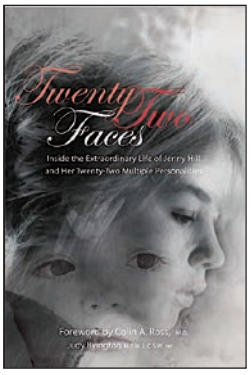
Weintraub, Pamela. 1985. Interview: J. Allen Hynek. *Omni* 7(5): 70–76, 108–114.

Witt, Howard. 1984. UFO expert moving to Arizona. *Chicago Tribune* (August 21).

John Franch is a freelance writer. He is the author of *Robber Baron: The Life of Charles Tyson Yerkes* and has written articles for such publications as *Astronomy*, *Sky and Telescope*, the *University of Chicago Magazine*, *Illinois Alumni*, and *Chicago History*. He can be reached at jfranch98@yahoo.com.

The Return of Repressed-Memory Satanic Ritual Stories

DOUGLAS MESNER



Twenty-Two Faces
By Judy Byington. Tate Publishing, Oklahoma City, 2012. ISBN: 978-1620240328. 428 pp. Softcover, $19.95.

It is often speculated among those who claim first-hand familiarity with Multiple Personality Disorder (MPD) that the many objections raised regarding the scientific legitimacy of this controversial diagnosis are nothing but the propagandizing of those who have a vested interests in maintaining a culture of "denial." Skeptics, some MPD defenders have resolved, either cannot face the brutal reality of child abuse (the traumas of which are alleged to have fractured the MPD-afflicted psyches into various repressed memory-harboring "personalities"), or—a more sinister take—they are willfully protecting perpetrators. Broad application of this line of argument has proven effective in shielding even the most implausible recovered memory narratives—supposedly brought to consciousness during the course of reintegrating the multiple mind—from scrutiny.

Judy Byington, former therapist and author of *Twenty-Two Faces*, the supposedly true story of an MPD-diagnosed survivor of satanic cult abuse, preemptively strikes at skeptics in her epilogue. "Some contend that Satanic Ritual Abuse [SRA], dissociation [MPD], and repressed memories are false, or don't exist," she writes. However, having "interviewed hundreds of SRA survivors, therapists, and police investigators," as well as having reviewed "dozens of successfully litigated cases that have satanic overtones," Byington warns that she "would seriously question why one would defend such a stance" (417). To be sure, this is where the battle lines are drawn. To express doubts regarding Byington's claims of a satanic cult conspiracy will doubtlessly be interpreted—for her convenience—as an assault not only upon dissociation and repressed memories but as a heartless assault upon victims of child abuse in general. After all, if traumas may be repressed and recovered memories are true, then recovery of any narrative, no matter how bizarre, is evidence of its own veracity.

It is, of course, worth pointing out that "recovered memories" are the stuff of past life regression, and that recovered memories form the evidentiary basis of "abductology," the study of earthly kidnappings perpetrated by extraterrestrial beings.

A voice of authority further warns that disbelief in the *Twenty-Two Faces* narrative is at best naive. Joyanna Silberg, president of the International Society for the Study of Trauma & Dissociation (ISSTD)—an organization for professionals studying dissociative disorders—assures readers in a blurb endorsing the book that she and her peers "are all too familiar with the kinds of crimes and disorders described in *Twenty-Two Faces*."

However, an honest appraisal of *Twenty-Two Faces* must acknowledge that it is, undeniably, a supernatural tale. The protagonist, Jenny Hill, is born under the auspice of a prophecy, predestined to "do important things on this earth" (402). Early abuse endows her not only with a convoluted family tree of alternate ("alter") personalities—some of which sever into further alters of their own—but with extrasensory perception (ESP) as well.

Her abuse is overseen by a cartoon-like villain, Dr. Greenbaum, who manages to fulfill nearly all conspiracy theory stereotypes by being not only Jewish but a *Jewish Nazi* and a *Satanist* brought to the United States under the sponsorship of the CIA.

Greenbaum and his two bumbling teenage henchmen (upon whom the evil doctor liberally applies beatings with his gnarled cane) are like most B-grade villains in that they discuss much of their devious plans while in the act, with Hill remembering every word . . . including full sentences spoken backward (in Satan-ese, if you will).

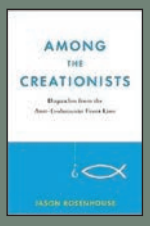
For all his powerful alliances, Greenbaum is still careful to ensure that Hill returns home—brainwashed of course—from her demon-appeasing torture sessions on time to finish her chores and enjoy supper, so as not to raise the ire of her parents. However, a senseless twist in the plot comes when we learn that her parents were in on the whole thing all along. (Further narrative incoherence occurs when Hill, after recovering "memories" of her father sexually abusing her and accusing him of such, is nonetheless distraught at not being invited over for the family Christmas.)

If traumas may be repressed and recovered memories are true, then recovery of any narrative, no matter how bizarre, is evidence of its own veracity.

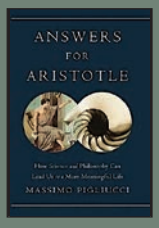
The climax of the story comes early in its pages when Hill is spared, by way of divine intervention, from being executed during a ceremonial sacrifice. A barefoot "white-robed male personage, surrounded in a glorious White Light" (393) appears hovering above the altar-bound toddler, sending the Satanic scofflaws scattering in fear.

Hill, a devout Mormon, is exonerated from every misdeed she's committed—years of prostitution and drug abuse—on the grounds that impious alters were acting without Hill's conscious knowledge. But if this sounds a bit much like spirit possession, Byington is clear that the phe-

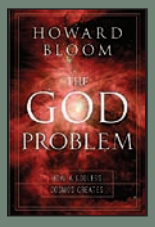
[NEW AND NOTABLE



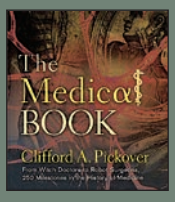
AMONG THE CREATIONISTS: Dispatches from the Anti-Evolutionist Front Line. Jason Rosenhouse. Rosenhouse is a mathematician who developed a strong interest in evolution and creationism and started attending creationist conferences. This book is in part an anecdotal memoir of his experiences socializing for a decade with creationists (people with views vastly different from his own), an explication of their beliefs and attitudes, and a discussion of certain questions about science and religion that arose as a result. Oxford University Press, 2012, 257 pp., $29.95.



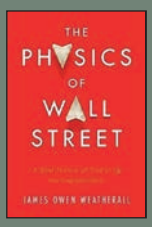
ANSWERS FOR ARISTOTLE: How Science and Philosophy Can Lead Us to a More Meaningful Life. Massimo Pigliucci. The author is that rare academic (and columnist for SI) who is both an evolutionary biologist and a philosopher (he has doctorates in both fields), and so he knows, better than most, that both science and philosophy are essential to understanding ourselves and our world. Here he provides a lively discussion of how "the combined insights of the best science and the best philosophy make it easier for us to consider our problems from a more informed, more rational position." Basic Books, 2012, 320 pp., $27.99.



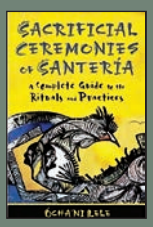
THE GOD PROBLEM: How a Godless Cosmos Creates. Howard Bloom. An epic literary, historical, and scientific expedition—with many extraordinary side explorations—into how an inanimate universe generates stunning new forms and unbelievable new powers (from inventing the big bang, fashioning quarks, and shaping stars and galaxies, to producing life and consciousness) without a creator. Prometheus Books, 2012, 708 pp., $28.00.



THE MEDICAL BOOK: From Witchdoctors to Robot Surgeons, 250 Milestones in the History of Medicine. Clifford A. Pickover. The polymath scientist and author Clifford Pickover, following on similar books about math and physics, here explores 250 of the most intriguing medical milestones from 10,000 BCE to modern times, with one page of text and one beautiful illustration for each. Sterling, 2012, 527 pp., $29.95.



THE PHYSICS OF WALL STREET: A Brief History of Predicting the Unpredictable. James Owen Weatherall. A surprisingly engaging look at how physicists brought their sophisticated models of prediction to the world's financial markets, and how those models were co-opted and corrupted by profiteers, leading in part to the financial meltdown of 2008. Houghton Mifflin Harcourt, 2012, 304 pp, $27.00



SACRIFICIAL CEREMONIES OF SANTERIA: A Complete Guide to the Rituals and Practices. Ocha'ni Lele. A Santeria priest examines the controversial role of animal sacrifice within the Afro-Cuban religion of Santeria, including legal, ethical, and metaphysical aspects, as well as ceremonial instructions and a history of the practice. Of interest to students of religion and anthropology, this book (including a glossary and bibliography) offers insight into the secretive and complex world of ritual Santeria. Destiny Books, 2012, 242 pp., $16.95.

—Kendrick Frazier and Benjamin Radford

nomena are separate and that Hill has suffered from both.

Some who are familiar with the Satanism scare of the 1980s and '90s, may recognize shades of the early "Satanic Panic" classics *Michelle Remembers* by Lawrence Pazder and Michelle Smith (1980) and *Satan's Underground* by Lauren Stratford (1988). These books, too, were supernatural recovered memory tales (*Michelle Remembers* featuring guest appearances by both Christ and Satan) marketed as true stories. Outlandish as these books self-evidently were, their popularity provoked a growing fear of a hidden satanic threat. Journalists, investigating the claims in each, ultimately debunked even the more mundane elements of the stories, with *Satan's Underground* being discredited to the point of being withdrawn from publication. Disgraced (yet shameless) Stratford changed her name and was found years later, still posing as a victim of abuse, this time as a Holocaust survivor.

Either unaware of or unconcerned with these facts, Byington lists both books in the *Twenty-Two Faces* bibliography, openly crediting *Michelle Remembers* with bringing the satanic cult epidemic into the public awareness.

The references to spirit possession and ESP in *Twenty-Two Faces* are especially interesting given that the book contains a forward by Colin Ross, MD, famed dissociation expert, past president of the ISSTD, and lead author of the Dissociative Disorders Interview Schedule (DDIS), a survey that measures dissociative tendencies. A section of the DDIS questions interviewees regarding their experiences with paranormal phenomena, including possession and ESP. As a psychiatrist, Ross should be concerned about the *perception* of paranormal happenings. However, his endorsement of *Twenty-Two Faces* suggests a belief in their reality. (Ross, in fact, is a known conspiracy theorist twice sued for malpractice related to instilling clients with false memories of satanic abuse).

The time is overdue to stop allowing crass paranoid fantasists to falsely claim a place in the fight against child abuse while flagrantly infecting vulnerable clients with toxic delusions.

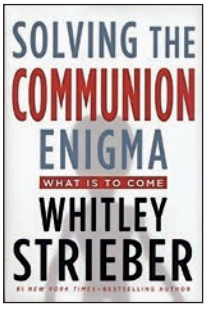
Silberberg, Ross, and Byington are by no means unique. The ISSTD—indeed, the entire psychotherapy subculture devoted to dissociative disorders—is fraught with this lunacy. Ideas that in any other context would find one locked in a room devoid of sharp objects still find a credulous audience—ironically, and insultingly—among licensed therapists who, of all people, should be able to distinguish reality from delusion. Organizations like S.M.A.R.T. (Stop Mind-control And Ritual abuse Today)—headed by Neil Brick, a licensed therapist who claims to believe he was once a top-secret brain-washed assassin for the Freemasons/CIA/Illuminati (whether together or separately isn't entirely clear)—hold annual conferences where attendees may not only purchase electromagnetic beam-blocking hats but also learn *from mental health professionals* how theories of dissociation and repression prove their most hysterical conspiracy theory fears. On her website, Byington cites S.M.A.R.T. as an "excellent information" resource.

The time is overdue to stop allowing crass paranoid fantasists to falsely claim a place in the fight against child abuse while flagrantly infecting vulnerable clients with toxic delusions. It is time to call out prurient pulp pornographies like *Twenty-Two Faces* for what they are. And it is, I daresay, high time to remove MPD (now listed as Dissociative Identity Disorder [DID]) from the American Psychiatric Association's Diagnostic and Statistical Manual (DSM). The fact is, *Twenty-Two Faces* does not errantly misappropriate DID/MPD to its outrageous narrative. *Twenty-Two Faces* correctly shows DID/MPD for what it has always been—a collaborative delusion between a therapist and an obscenely mistreated client. ■

Douglas Mesner is a freelance journalist, student of cognitive science, and chronicler of conspiracy folklores. His forthcoming as-yet-untitled book will explore conspiracy subcultures, psychotherapy cults, and false memories. His writings may be found at www.process.org.

Pretentious Whit

ROBERT SHEAFFER



Solving the Communion Enigma: What Is to Come.
By Whitley Strieber. Jeremy P. Tarcher/Penguin, New York, 2011. ISBN: 1585429171. 240 pp. Hardcover, $25.95.

Here we go again. Whitley Strieber, author of numerous best-selling books of fiction, horror, and some that defy categorization, spins a few more yarns as he re-hashes some familiar old ones. In his best-selling books *Communion* (1987) and *Transformation* (1988), Strieber claims to have experienced inexplicable encounters—including an infamous one involving an anal probe—with "the visitors." Though they seem to be extraterrestrials, Strieber claims not to know who—or what—the visitors really are. His latest book, *Solving the Communion Enigma: What Is to Come*, picks up where these other tales leave off in an effort to provide a solution to their unbelievable, though familiar, otherworldly mysteries. It is not those who've experienced such encounters who are delusional, says Strieber—it's those who deny the truth of them. So if you doubt that Strieber was stalked in New York and Texas by "a sinister chain-smoking dwarf" who was apparently able to climb walls but could not be photographed, you are probably delusional.

Strieber's attempt to bolster his message with the help of prestigious intellectuals and authors separates *Solving the Communion Enigma* from the author's previous Whitley-isms. Jeffrey J. Kripal, Chair of Religious Studies at Rice University, writes in his foreword to the book that Strieber understands that "we sit on an intellectual precipice, that a 'new world' is just over the horizon, that science and its clunky methods are not going to get us there. . . . Only the future can finally read a great book like *Communion*." Someone of Kripal's credentials should know better than to write something like that. Strieber also calls upon the UFO writings of authors such as Leslie Kean, Jacques Vallee, John Mack, Paul Hill, and Kenneth Ring—the latter two of whom provide a suitably esoteric and obscure complement to Strieber's own homespun wisdom.

If you doubt that Strieber was stalked in New York and Texas by "a sinister chain-smoking dwarf" who was apparently able to climb walls but could not be photographed, you are probably delusional.

But take away the pretension and the same old Whitley emerges from this book, describing his latest hair-raising scrapes with the paranormal. One rainy night, Strieber awoke to find himself experiencing "the consciousness of a number of different Whitleys" who exist, apparently, "in different parallel universes." Another night, he awoke and "found myself to be invisible. I had no body. . . . A cold uneasiness went through me. Where was my body?" Fortunately, he located his missing body nearby. At breakfast the next morning, his son and the son's friend chirped about how "Whitley came down through the ceiling last night!"

Perhaps the most extraordinary claim in the entire book, though, is Strieber's repeated claim of poverty. He laments that in the early 1990s he ran out of money and could no longer afford either his Upstate New York cabin or his New York City apartment: "In August of 1994, we ceased to be able to pay our mortgage." He moved his family to the small, modest condominium

they owned in San Antonio, Texas. Yet Strieber's *New York Times* best sellers must have brought him more money in a few years than the average person could hope to see in a lifetime. How could he possibly have spent so much money so quickly, especially since none of his writing indicates the author's extravagant lifestyle?

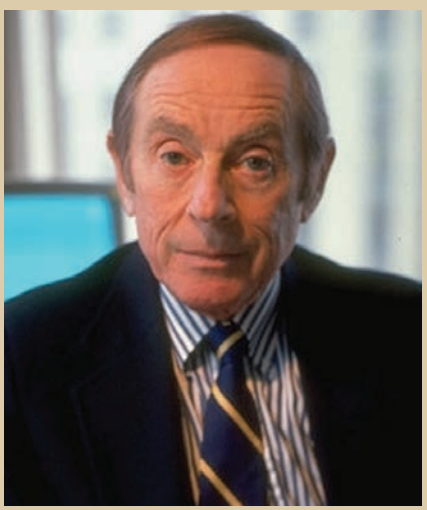
So, what solutions to "the Communion Enigma" does the book offer? Sadly, none—although Strieber does suggest that "one thing our visitors are doing is creating situations that are designed to increase our left-brain functioning." He views this as a hopeful conclusion since "nobody who is trying to improve our brain function is interested in our death." In fact, Strieber "began to see, more and more, that the dead were involved with our supposed alien visitors, and through them with us.... I have seen the joy of the dead, but I have also seen their suffering." (See my review of Strieber's earlier book *The Key*, "He Sees Dead People," SI, July/August 2011). Toward the end of the book he warns, "Mankind is going to die, one way or another, to the world that we know now. But, at the same time, mankind is going to be born—literally born again."

According to the website for his book *Hybrids*, the Striebers now have residences in New York, Texas, and California—which means, I'm sure, that the visitors will provide Whitley Strieber with many more profitable adventures before he ever solves his "enigma." ■

Robert Sheaffer has tracked and exposed UFO claims for decades. His most recent book is *Psychic Vibrations* (Create Space, 2011), based on his long-running SKEPTICAL INQUIRER column.

[OBITUARY

Science Journalist Leon Jaroff, Eighty-Five



Leon Jaroff, a noted science journalist and strong defender of science and rationalism, died October 20, 2012 (earlier in the same day Paul Kurtz died), at the age of eighty-five. He was an original founding fellow of CSICOP, now the Committee for Skeptical Inquiry.

Jaroff was the science editor at *Time* magazine who famously convinced his bosses to start a dedicated science magazine, *Discover*, of which he was the initial managing editor. He was that rare science journalist who understood the need to take on pseudoscience directly. He wrote a column for *Time* called "The Skeptical Eye." As editor of *Discover* he also made sure his magazine took on the pseudosciences of the day, such as UFOs, ESP, creationism, and alternative medicine.

He apparently left *Discover* to return to *Time* magazine over conflicts regarding the expansion of *Discover* to cover psychology and psychiatry, of which Jaroff was skeptical.

Jaroff was also rare (although not unique, certainly) in recognizing science denialism, such as the anti-vaccine movement, for what it was. He wrote in a *Time* column in 2000:

> Still, facts do not deter quacks or fanatics and the parents they dupe. School boards across the country this fall were again pressured to admit unvaccinated students. That would be a disservice not only to these kids, who would be vulnerable to a host of diseases, but to their classmates whose shots didn't take or who were excused from vaccinations for medical or religious reasons.

About chiropractors, he wrote in *Time* in 2002:

> Chiropractors also employ a bewildering variety of weird practices to diagnose their patients. Some use applied kinesiology, a muscle test that supposedly can diagnose allergies and diseased organs. Hair analysis and iris readings are commonplace in the profession. Even sillier are many of the treatments that chiropractors use and recommend: homeopathic potions, colon irrigation, magnetic therapy, enzyme pills, colored-light therapy, and something called "balancing body energy," among other mystical procedures with undocumented effects.

Who, now, at *Time* magazine will have the fortitude to call out "quacks" and label alternative medicine practices as "weird" and "silly"?

—Steven Novella

Steven Novella writes the "The Science of Medicine" column for the SKEPTICAL INQUIRER.

Skepticism in Art | Van Gogh's 'Murder'? | Top Ten Alien Mug Shots | Wiseman Wins CSI Bailes Prize
Skeptical Inquirer
THE MAGAZINE FOR SCIENCE AND REASON
SPECIAL ISSUE
ART and SKEPTICISM

Art & Skepticism

The expansion of the SKEPTICAL INQUIRER in the September/October 2012 issue into art as a new area of inquiry was most interesting. The article by Samuel McNerney, "Confirmation Bias and Art," was very thought provoking. He notes that "confirmation bias influences our aesthetic judgments just as it does any other judgment." But he goes on to note that "although there are plenty of conventionalists who made great art by reinforcing preconceptions.... Art doesn't have platonic standard; good art is form-breaking." It seems, however, that modern art has become so preoccupied with form-breaking that all standards have been cast aside and it has become like "playing tennis with the net down."

Skeptics interested in modern art might find interesting two books on the subject that take their titles from Marcel Duchamp's attack on traditional art by drawing a mustache and beard on a copy of the iconic Mona Lisa. Terence Harold Robsjohn-Gibbings published in 1947 *Mona Lisa's Mustache*, in which he views the pioneers of modern art very critically, noting that many of them were believers in psychic phenomena. In 2001, Mary Settegast published *Mona Lisa's Moustache* (note difference in spelling: mustache vs. moustache), which presents the early modern artists as pioneers of a New Age worldview. These two books certainly reflect contrasting confirmation biases and may interest skeptics interested in art, although the former is probably more in tune with a skeptical outlook.

Let us hope that the SKEPTICAL INQUIRER continues to expand its areas of inquiry with special issues and might seek readers' suggestions of areas to investigate.

David W. Briggs, PhD
Marion, Massachusetts

Psychics on Drs. Phil and Oz

Bryan Farha's interesting short article "Dear Dr. Phil" (News and Comment, SI, September/October 2012) coincided with an episode of the *Dr. Oz* show broadcast August 20, featuring "medium" Theresa Caputo. "Dr. Bryan's" review had criticized Dr. Phil because that show had four allegedly psychic guests but only one skeptic. Dr. Oz's show with Caputo was even worse. There were no skeptics. Dr. Oz did tell Caputo that skeptics claim mediums use a technique called "cold reading." Caputo had the audacity to say, "I don't know what that is."

Interestingly, there were people seated right on the stage, and all but one of Caputo's readings involved these specially seated audience members. As Bryan Farha pointed out in his Dr. Phil article, one wonders how her subjects were selected. Did they fill out questionnaires before the show? Were they special guests of Caputo's staff? Overall Caputo's performance was good. Of course, not being privy to the inside details of where her selected subjects came from and how much information they revealed before the show, I can reasonably conclude that Caputo is an entertainer with only five senses. It is astounding that people can't imagine all the ways she could be cheating!

Caputo is becoming another Sylvia Browne, and that is the last thing grieving people need!

Ann Gresko
Colorado Springs, Colorado

Yearnings for UFO Visitors

UFO articles in recent SI issues remind me of queries that invariably arise when I lecture on the search for life in the universe. While most people are genuinely interested in the scientific aspects of the topic and in SETI there is always that lingering "Yes, but what about UFOs?" question. Folks accept that most reports stem from unreliable witnesses, fuzzy photographs, misidentified aircraft, outright hoaxes, natural phenomena, and other mundane explanations, but still ask "Okay, you can explain away 95 percent of UFO reports, but what about the rest?" That's tougher to handle as I have just told them that science is open-minded, does not deal in absolutes, encourages theorizing, etc. Since lay people don't usually appreciate how science operates, they often suspect something is being "hidden" in that last 5 percent.

Amateur astronomers are most skeptical of UFOs because they know the sky, have some scientific and technical understanding, and appreciate unusual astronomical phenomena. The attitudes of college students and the general public, however, vary considerably depending on their backgrounds. While most individuals accept rational UFO explanations, many do so only reluctantly. I attribute that to disappointment that titillating claims of alien visitations are untrue and to a universal hope that some higher intelligence is out there to welcome us. This can take on quasi-religious longings as demonstrated by the Heaven's Gate cult.

After my most recent presentation, followed by many excellent questions, an elegant, articulate lady stood up declaring, "You have completely ignored the overwhelming evidence that aliens have been here and interbred with humans since the Roswell incident in 1947. Oh, but you are probably a government scientist and were told to keep this from the public."

Klaus R. Brasch
Professor Emeritus of Biology
California State University, San Bernardino

'UFO Landing': Balloon

Regarding Massimo Polidoro's "Alien Mug Shots" (SI, September/October 2012), it always surprises me to see the Carp "UFO landing" film even mentioned. The film was aired in Canada on national television in 1991 with much ballyhoo. I lived in Ottawa at the time, not far from Carp. A week or so after the program aired, a small article appeared in the Ottawa paper in which a hot-air balloon pilot reported that his flight log indicated that he had made a night landing at the time and place of the supposed UFO sighting, after dropping flares to light up the ground. He saw no flying saucer and no aliens.

R. Osczevski
Newmarket, Ontario
Canada

Empirical Evidence

Ronald A. Lindsay's review of Chris Mooney's *The Republican Brain* (SI, September/October 2012) is dutifully skeptical, but I'm gratified that he also correctly considers the book to be "important and provocative" and "meaty and rewarding," for I believe it to be all those things, as well as factually accurate (though we don't have "hard numbers" to prove it).

It should be remarked that Mooney cannot "explain" why the Republican Brain exists because we do not yet understand enough about how the brain works. However, I suspect (unsupported by hard numbers) that a lot of what we call personality—our beliefs about the difference between right and wrong, the capacity for compassion, or selfishness and indifference to the pain and discomfort of others—is hard-wired into our DNA.

Mooney is not trying to *explain* it; he's trying to show the empirical evidence that certainly implies that it does exist, and I believe the evidence is compelling.

Fifty years ago in New York, at a party down the hall from my apartment at which I was the only white person, having labored in vain to convince a young man that not everyone from South Carolina is a bigot, I was told by an older man who was a professor at City College that "education is clearly the answer," to which I respectfully replied that you cannot teach a bigot to stop being a bigot. You cannot educate a hate-mongering nitwit (pardon the pejorative, I got carried away) to think differently. I didn't know why then, and I still don't know why, but I believe it to be true, and everything I've seen about human behavior corroborates it.

(Still, we need those hard numbers, don't we, to make Lindsay happy.)

Gene White
Santa Fe, New Mexico

POINT OF INQUIRY
WITH CHRIS MOONEY & INDRE VISKONTAS

Point of Inquiry, named a top-ten podcast by *Business Insider*, is where the brightest minds of our time sound off on all the things you're not supposed to talk about at the dinner table: science, religion, society, and politics. **Chris Mooney,** author of *The Republican Brain* and *The Republican War on Science*, and neuroscientist (and opera singer) **Indre Viskontas** engage in pointed and critical conversations with leading scientists, philosophers, social critics, and entertainers.

Previous guests include **Brian Greene, Susan Jacoby, Richard Dawkins, Ann Druyan, Neil deGrasse Tyson, Eugenie Scott, Adam Savage, Bill Nye, Lawrence Krauss,** and many more!

www.pointofinquiry.org

Ronald Lindsay's review of *The Republican Brain* was an outstanding analysis—a superlative, intellectually honest review. Thank you!

John Sack
Del Mar, California

Who Has Lost Trust?

In his special report "Why the GOP Distrusts Science" (SI, July/August 2012) Chris Mooney cites the decline in trust for the scientific community as evidence that conservatives are more rigid and closed-minded than they were in 1974.

I can't find where he addresses the possibility that it was the scientific community that changed over this time and became less trustworthy in the view of conservatives.

All that would require is that they be seen as becoming more politically active and more liberal. Both are true. This creates at least the appearance of a conflict of interest and an increased incentive to do bad science or even outright lie to advance their political agenda. This is precisely what happened in the debate on gun control during that time. Fool me once. . . .

But it's worse than that. Many scientists today want the power to regulate. Some even want to be the food police.

Forty years ago the question was, "Do you trust the scientists who sent men to the moon and brought them safely back?" Yes.

Now the question is, "Do you trust the scientists who think they are superior to you and have a divine right to take away all your freedom (for your own good) and forcibly micromanage every aspect of your life?" No.

I would have given the same answer forty years ago. I'm not the one who changed.

Paul Kelly
Delta, Colorado

I have noticed a disturbing trend in this publication of politicizing skepticism. I am a skeptic, holder of a postgraduate degree, owner of every issue of SKEPTICAL INQUIRER, an atheist, and a Republican. Often Democrats are portrayed In SI as enlightened secularists, while Republicans are seen as ignorant Bible-thumpers. I see that in the current SI (September/October 2012), a news article states that 41 percent of Democrats surveyed believe that God created humans in their present form. So much for enlightenment.

If I wished to politicize skepticism, I'd note that I'm skeptical of a government that borrows 40 percent of its budget, skeptical of running up a sixteen trillion dollar debt, and

skeptical of an income tax system in which nearly half of the working population pays nothing. Human behavior that negatively affects our climate is alarming, but so is behavior that can bankrupt an entire nation. If you wanted to be fair about politics and skepticism you'd publish those facts about acts of enlightened Democrats.

My suggestion is that going forward we leave politics out of SI completely and stick to less controversial and divisive topics such as religion. Seriously, don't we have enough enemies without turning on each other?

William Robinson
Jacksonville, Florida

Crossing the Line

One of the things I've always enjoyed about SKEPTICAL INQUIRER is the varied points of view. However, Kenneth W. Krause's latest column ("Saving Us from Sweets: This Is Science and Government on Sugar," SI, September/October 2012) threatens to cross the line into cartoonish attack. He criticizes a *Nature* paper by three public health advocates attempting to regulate sugar by using *ad hominem* attacks.

First, Dr. Lustig, MD, is never acknowledged to be what he in fact is, a medical doctor. This may be because Mr. Krause is neither a doctor nor a scientist and so would lose any credential fight. Lowering the bar further, he then refers to the authors of this paper repeatedly as "The San Franciscans." I'm inferring that he's invoking the stereotype that everyone in that city of over three quarters of a million people are liberal and therefore they all support more regulation on everything—a ridiculous idea, which is why it's a stereotype.

Liam McDaid
Astronomy Coordinator &
Professor of Astronomy
Sacramento City College
Sacramento, California

Worth Ignoring

I am grateful for Kenneth Krause's response (Letters, SI, September/October 2012) to the feminist critique offered by Jen Nichols. There are so many writers out there who offer thoughtful points of view; so it is good to know which ones I can safely ignore. Krause has joined that list, as he has presented himself as one who can't handle criticism, makes up his facts as he goes along, and seems to belong to a long-forgotten century.

To wit: "When I was a young man [looking for work]," says Krause, "a safe clerical position would have been much preferred . . . to a back-breaking construction [job]. . . . Clerical jobs often paid more." What planet, Mr. Krause, did you grow up on? Clerical jobs paid more than construction jobs, and young men would have preferred them? Please!

Then, "Neither men nor women have to endure the hardship of pregnancy and childbirth. Reproduction is a choice." Such an observation is so condescending and ad hominem that it is nauseating. It is almost embarrassing to point out that, when the choice is positive, it is the woman who bears the child.

Finally is his insistence that "there is no such thing as 'the same work' . . . [because] factors other than discrimination are likely at play." If you, Mr. Krause, are going to take a broadside shot at such a basic assertion of feminism, you need to do a whole lot better than claim that "other factors are likely at play." Remember, you are writing in a magazine that prides itself on being scientific. If there were a continuum between science on one hand and myth, prejudice, or male chauvinistic piggery on the other, that comment of yours is so far on the non-science side that you probably need to be writing for some other publication.

James J. Phillips
Berkley, Michigan

New Claim about Acupuncture

Vickers et al. have just published a major meta-analysis of acupuncture for chronic pain that concludes an effect beyond the placebo. This study, the most extensive of its kind ever, examined twenty-nine "high quality randomized controlled trials" from an initial pool of nearly 18,000 patients. "High quality" acupuncture placebo controls incorporated sham acupuncture in which needles were inserted superficially, at non-acupuncture points, or non-needle stimuli (electrical, laser, mechanical) designed to mimic the feel of inserted needles. A small but significant effect size emerged for acupuncture, even when compared with controls.

Let me caution that even the best acupuncture studies typically fail to institute true double-blind controls, one in which neither the presenter nor the patient know which treatment is real or placebo. Some studies use "trained" acupuncture specialists to apply needles, destroying the ignorance of presenter to the treatment being presented. Under these conditions, patients might detect from subtle presenter cues if they are receiving the real thing.

Second, true acupuncture involves significant needle insertion, generally from .25 inches to more than an inch. I find it difficult to accept that a patient (even blindfolded) cannot detect the difference between a one-inch insertion from a sham needle-like thump. If someone jabbed me with a one-inch needle, my cognitive and affective response would be considerable, possibly obliterating any headache I might have.

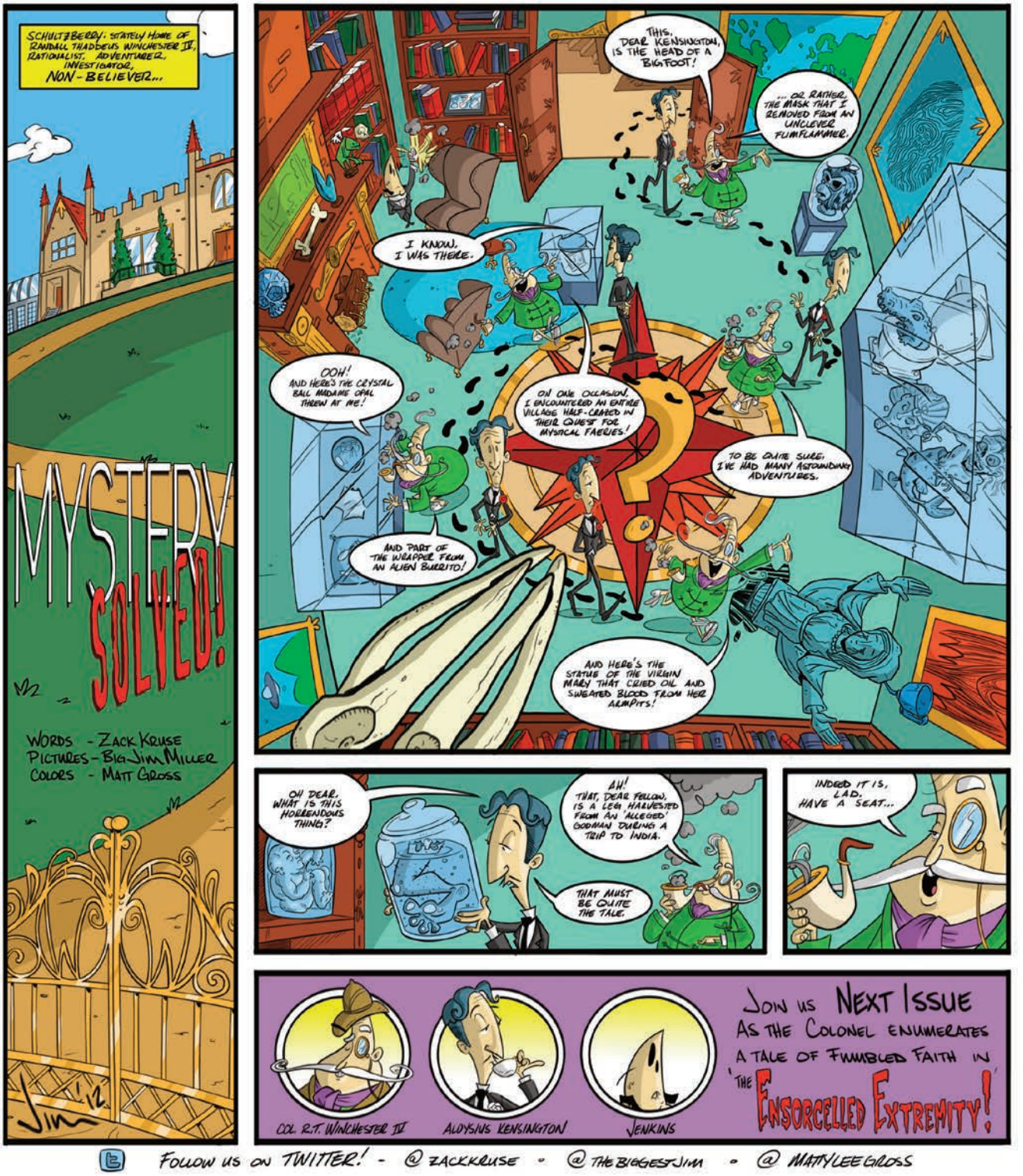
Until adequate double-blind controls are instituted in acupuncture research, we must conclude that either acupuncture is a placebo, or that significant non-acupuncture needle insertion has some effect beyond suggestion. If non-acupuncture needle insertion has some effect, then researchers would have to compare it with other forms of pain and torture, such as pinching, burning, freezing, spanking, and water boarding.

Jonathan C. Smith, PhD
Professor of Psychology
Head, Pseudoscience and
Paranormal Lab
Roosevelt University
Chicago, Illinois

[FEEDBACK

The letters column is a forum on matters raised in previous issues. **Letters should be no longer than 225 words.** Due to the volume of letters we receive, not all can be published. Send letters as email text (not attachments) to letters@csicop.org. In the subject line, provide your surname and informative identification, e.g.: "Smith Letter on Jones evolution article." Include your name and address at the end of the letter. You may also mail your letter to the editor to 944 Deer Dr. NE, Albuquerque, NM 87122, or fax it to 505-828-2080.

Find us on: facebook®


SCHULTZBERRY: STATELY HOME OF RANDALL THADDEUS WINCHESTER II, RATIONALIST, ADVENTURER, INVESTIGATOR, NON-BELIEVER...
MYSTERY SOLVED!
WORDS - ZACK KRUSE
PICTURES - BIG JIM MILLER
COLORS - MATT GROSS
THIS, DEAR KENSINGTON, IS THE HEAD OF A BIGFOOT!
... OR RATHER, THE MASK THAT I REMOVED FROM AN UNCLEVER FUMFLAMMER.
I KNOW, I WAS THERE.
OOH! AND HERE'S THE CRYSTAL BALL MADAME OPAL THREW AT ME!
ON ONE OCCASION, I ENCOUNTERED AN ENTIRE VILLAGE HALF-CRAZED IN THEIR QUEST FOR MYSTICAL FAERIES!
TO BE QUITE SURE, I'VE HAD MANY ASTOUNDING ADVENTURES.
AND PART OF THE WRAPPER FROM AN ALIEN BURRITO!
AND HERE'S THE STATUE OF THE VIRGIN MARY THAT CRIED OIL AND SWEATED BLOOD FROM HER ARMPITS!
OH DEAR. WHAT IS THIS HORRENDOUS THING?
AH! THAT, DEAR FELLOW, IS A LEG HARVESTED FROM AN 'ALLEGED' GOODMAN DURING A TRIP TO INDIA.
THAT MUST BE QUITE THE TALE.
INDEED IT IS, LAD. HAVE A SEAT...
COL. R.T. WINCHESTER III
ALDYSIUS KENSINGTON
JENKINS
JOIN US NEXT ISSUE AS THE COLONEL ENUMERATES A TALE OF FUMBLED FAITH IN 'THE ENSORCELLED EXTREMITY!'
FOLLOW US ON TWITTER! - @ZACKKRUSE - @THEBIGGESTJIM - @MATTYLEEGROSS

Committee for Skeptical Inquiry

Scientific and Technical Consultants

Gary Bauslaugh,
writer and editor,
Victoria, B.C., Canada

Richard E. Berendzen,
astronomer, Washington, DC

Martin Bridgstock,
senior lecturer, School of Science,
Griffith Univ., Brisbane, Australia

Richard Busch,
magician/mentalist, Pittsburgh, PA

Shawn Carlson,
Society for Amateur Scientists,
East Greenwich, RI

Roger B. Culver,
prof. of astronomy, Colorado State Univ.

Felix Ares de Blas,
prof. of computer science,
Univ. of Basque, San Sebastian, Spain

J. Dommanget,
astronomer, Royale Observatory,
Brussels, Belgium

Nahum J. Duker,
assistant prof. of pathology,
Temple Univ.

Taner Edis,
Division of Science/Physics
Truman State Univ.

Barbara Eisenstadt,
psychologist, educator, clinician,
East Greenbush, NY

William Evans,
prof. of communication,
Center for Creative Media

Bryan Farha,
prof. of behavioral studies in
education, Oklahoma City Univ.

John F. Fischer,
forensic analyst, Orlando, FL

Eileen Gambrill,
prof. of social welfare,
Univ. of California at Berkeley

Luis Alfonso Gámez,
science journalist, Bilbao, Spain

Sylvio Garattini,
director, Mario Negri Pharmacology
Institute, Milan, Italy

Laurie Godfrey,
anthropologist, Univ. of Massachusetts

Gerald Goldin,
mathematician, Rutgers Univ., NJ

Donald Goldsmith,
astronomer; president, Interstellar Media

Alan Hale,
astronomer, Southwest Institute for Space
Research, Alamogordo, NM

Clyde F. Herreid,
prof. of biology, SUNY Buffalo

Terence M. Hines,
prof. of psychology,
Pace Univ., Pleasantville, NY

Michael Hutchinson,
author; Skeptical Inquirer
representative, Europe

Philip A. Ianna,
assoc. prof. of astronomy,
Univ. of Virginia

William Jarvis,
prof. of health promotion and public health,
Loma Linda Univ., School of Public Health

I.W. Kelly,
prof. of psychology, Univ. of Saskatchewan,
Canada

Richard H. Lange,
MD, Mohawk Valley Physician
Health Plan, Schenectady, NY

Gerald A. Larue,
prof. of biblical history and
archaeology, Univ. of So. California

William M. London,
California State Univ., Los Angeles

Rebecca Long,
nuclear engineer, president of Georgia
Council Against Health Fraud, Atlanta, GA

Thomas R. McDonough,
lecturer in engineering, Caltech, and SETI
Coordinator of the Planetary Society

James E. McGaha,
astronomer, USAF pilot (ret.)

Chris Mooney,
journalist, author, host of *Point of Inquiry*

Joel A. Moskowitz,
director of medical psychiatry, Calabasas
Mental Health Services, Los Angeles

Matthew C. Nisbet,
assistant professor, School of
Communication, American Univ.

John W. Patterson,
prof. of materials science and
engineering, Iowa State Univ.

James R. Pomerantz,
prof. of psychology, Rice Univ.

Gary P. Posner,
MD, Tampa, FL

Daisie Radner,
prof. of philosophy, SUNY Buffalo

Robert H. Romer,
prof. of physics, Amherst College

Karl Sabbagh,
journalist, Richmond, Surrey, England

Robert J. Samp,
assistant prof. of education and
medicine, Univ. of Wisconsin-Madison

Steven D. Schafersman,
asst. prof. of geology, Miami Univ., OH

Chris Scott,
statistician, London, England

Stuart D. Scott Jr.,
associate prof. of anthropology,
SUNY Buffalo

Erwin M. Segal,
prof. of psychology, SUNY Buffalo

Carla Selby,
anthropologist / archaeologist

Steven N. Shore,
prof. of astrophysics, Univ. of Pisa, Italy

Waclaw Szybalski,
professor, McArdle Laboratory, Univ.
of Wisconsin-Madison

Sarah G. Thomason,
prof. of linguistics, Univ. of Pittsburgh, PA

Tim Trachet,
journalist and science writer, honorary
chairman of SKEPP, Belgium

David Willey,
physics instructor, Univ. of Pittsburgh, PA

Affiliated Organizations | United States

ALABAMA

Alabama Skeptics, Alabama. Emory Kimbrough. Tel.: 205-759-2624. 3550 Watermelon Road, Apt. 28A, Northport, AL 35476

ARIZONA

Tucson Skeptics Inc. Tucson, AZ. James McGaha. Email:mcgaha@skepticus.com. 5100 N. Sabino Foothills Dr., Tucson, AZ 85715

Phoenix Area Skeptics Society (PASS) http://phoenixskeptics.org
Email: phoenixskeptics@gmail.com

Phoenix Skeptics, Phoenix, AZ. Michael Stackpole, P.O. Box 60333, Phoenix, AZ 85082

CALIFORNIA

Sacramento Organization for Rational Thinking (SORT) Sacramento, CA. Ray Spangenburg, co-founder. Tel.: 916-978-0321; Email: kitray2@comcast.net. PO Box 2215, Carmichael, CA 95609-2215 http://home.comcast.net/~kitray2/site/

Bay Area Skeptics (BAS) San Francisco–Bay Area. Eugenie C. Scott, President. 1218 Miluia St., Berkeley, CA 94709. Email: scott@ncse.com. www.BASkeptics.org

Independent Investigations Group (IIG), Center for Inquiry–*West*, 4773 Hollywood Blvd, Los Angeles, CA 90027. Tel.: 323-666-9797. www.iigwest.com

Sacramento Skeptics Society, Sacramento. Terry Sandbek, President. 4300 Auburn Blvd. Suite 206, Sacramento CA 95841. Tel.: 916 489-1774. Email: terry@sandbek.com

San Diego Association for Rational Inquiry (SDARI) President: Paul Wenger. Tel.: 858-292-5635. Program/general information 619-421-5844. www.sdari.org. Postal address: PO Box 623, La Jolla, CA 92038-0623

CONNECTICUT

New England Skeptical Society (NESS) New England. Steven Novella M.D., President. Tel.: 203-281-6277; Email: board@theness.com. 64 Cobblestone Dr., Hamden, CT 06518 www.theness.com

D.C./MARYLAND

National Capital Area Skeptics NCAS, Maryland, D.C., Virginia. D.W. "Chip" Denman. Tel.: 301-587-3827. Email: ncas@ncas.org. PO Box 8428, Silver Spring, MD 20907-8428 http://www.ncas.org

FLORIDA

Tampa Bay Skeptics (TBS) Tampa Bay, Florida. Gary Posner, Executive Director. Tel.: 813-505-7013; Email: tbs@centerforinquiry.net. c/o O'Keefe, 4011 S. Manhattan Ave. #139, Tampa, FL 33611-1277. www.tampabayskeptics.org

The James Randi Educational Foundation. James Randi, Director. Tel: (954)467-1112; Email jref@randi.org. 201 S.E. 12th St. (E. Davie Blvd.), Fort Lauderdale, FL 33316-1815. www.randi.org

ILLINOIS

Rational Examination Association of Lincoln Land (REALL) Illinois. Bob Ladendorf, Chairman. Tel.: 217-546-3475; Email: chairman@reall.org. PO Box 20302, Springfield, IL 62708 www.reall.org

Chicago Skeptics Jennifer Newport, contact person. Email: chicagoskeptics@gmail.com. www.chicagoskeptics.com

LOUISIANA

Baton Rouge Proponents of Rational Inquiry and Scientific Methods (BR-PRISM) Louisiana. Marge Schroth. Tel.: 225-766-4747. 425 Carriage Way, Baton Rouge, LA 70808

MICHIGAN

Great Lakes Skeptics (GLS) SE Michigan. Lorna J. Simmons, Contact person. Tel.: 734-525-5731; Email: Skeptic31@aol.com. 31710 Cowan Road, Apt. 103, Westland, MI 48185-2366

Tri-Cities Skeptics, Michigan. Gary Barker. Tel.: 517-799-4502; Email: barkerg@svol.org. 3596 Butternut St., Saginaw, MI 48604

MINNESOTA

St. Kloud Extraordinary Claim Psychic Teaching Investigating Community (SKEPTIC) St. Cloud, Minnesota. Jerry Mertens. Tel.: 320-255-2138; Email: gmertens@stcloudstate.edu. Jerry Mertens, Psychology Department, 720 4th Ave. S, St. Cloud State Univ., St. Cloud, MN 56301

MISSOURI

Skeptical Society of St. Louis (SSSL) St. Louis, Missouri. Michael Blanford, President. Email: info@skepticalstl.org. 2729 Ann Ave., St. Louis, MO 63104 www.skepticalstl.org

St. Joseph Skeptics
P.O. Box 8908
St. Joseph MO, 64508-8908

NEVADA

Reno Skeptical Society, Inc., Brad Lutts, President. Tel.: (775) 335-5505; Email: info@RenoSkeptics.org. 18124 Wedge Parkway #1052 Reno, Nevada 89511. www.RenoSkeptics.org

NEW MEXICO

New Mexicans for Science and Reason (NMSR) New Mexico. David E. Thomas, President. Tel.: 505-869-9250; Email: nmsrdave@swcp.com. PO Box 1017, Peralta, NM 87042. www.nmsr.org

NEW YORK

New York City Skeptics Michael Feldman, president. PO Box 5122 New York, NY 10185. www.nycskeptics.org

Central New York Skeptics (CNY Skeptics) Syracuse. Lisa Goodlin, President. Tel: (315) 636-6533; Email: info@cnyskeptics.org, cnyskeptics.org PO Box 417, Fayettville, NY 13066

OHIO

Central Ohioans for Rational Inquiry (CORI) Central Ohio. Charlie Hazlett, President. Tel.: 614-878-2742; Email: charlie@hazlett.net. PO Box 282069, Columbus, OH 43228

Cleveland Skeptics Joshua Hunt, Co-Organizer, www.clevelandskeptics.org

South Shore Skeptics (SSS) Cleveland and counties. Jim Kutz. Tel.: 440 942-5543; Email: jimkutz@earthlink.net. PO Box 5083, Cleveland, OH 44101 www.southshoreskeptics.org

Association for Rational Thought (ART) Cincinnati. Roy Auerbach, president. Tel: (513)-731-2774, Email: raa@cinci.rr.com. PO Box 12896, Cincinnati, OH 45212. www.cincinnatiskeptics.org

OREGON

Oregonians for Science and Reason (OASR) Oregon. Jeanine DeNoma, president. Tel.: (541) 745-5026; Email: wilkinsa@peak.org; 39105 Military Rd., Monmouth, OR 97361. www.OASR.org

PENNSYLVANIA

Philadelphia Association for Critical Thinking (PhACT), much of Pennsylvania. Eric Krieg, President. Tel.: 215-885-2089; Email: erickrieg@verizon.net. By mail c/o Ray Haupt, 639 W. Ellet St., Philadelphia PA 19119

TENNESSEE

Rationalists of East Tennessee, East Tennessee. Carl Ledenbecker. Tel.: (865)-982-8687; Email: Aletall@aol.com. 2123 Stonybrook Rd., Louisville, TN 37777

TEXAS

North Texas Skeptics NTS Dallas/Ft Worth area, John Blanton, Secretary. Tel.: (972)-306-3187; Email: skeptic@ntskeptics.org. PO Box 111794, Carrollton, TX 75011-1794. www.ntskeptics.org

VIRGINIA

Science & Reason, Hampton Rds., Virginia. Lawrence Weinstein, Old Dominion Univ.-Physics Dept., Norfolk, VA 23529

WASHINGTON

Seattle Skeptics
www.seattleskeptics.com

The organizations listed above have aims similar to those of the Committee for Skeptical Inquiry but are independent and autonomous. Representatives of these organizations cannot speak on behalf of CSI. Please send updates to Barry Karr, P.O. Box 703, Amherst NY 14226-0703.
International affiliated organizations listed at www.csicop.org.

CENTERS FOR INQUIRY

www.centerforinquiry.net/about/branches

Transnational
3965 Rensch Road, Amherst, NY 14228
Tel.: (716) 636-4869

Austin
PO Box 202164, Austin, TX 78720-2164
Tel.: (512) 919-4115

Chicago
PO Box 7951, Chicago, IL 60680-7951
Tel.: (312) 226-0420

Indianapolis
350 Canal Walk, Suite A, Indianapolis, IN 46202
Tel.: (317) 423-0710

Los Angeles
4773 Hollywood Blvd., Hollywood, CA 90027
Tel.: (323) 666-9797

Michigan
3777 44th Street SE, Grand Rapids, MI 49512
Tel.: (616) 698-2342

New York City
PO Box 26241, Brooklyn, NY 11202
Tel.: (347) 699-0234

San Francisco
email: sf@centerforinquiry.net

Tampa Bay
4011 S. Manhattan Ave. #139, Tampa, FL 33611-1277
Tel.: (813) 505-7013

Washington, DC
921 Pennsylvania Ave. SE, Washington, DC 20003
Tel.: (202) 543-0960

Argentina
Buenos Aires, Argentina
Tel.: +54-11-4704-9437
www.cfiargentina.org

Canada
2 College Street, Suite 214 Toronto, Ontario,
M5G 1K3, Canada

China
China Research Institute for Science Popularization,
NO. 86, Xueyuan Nanlu Haidian Dist., Beijing,
100081 China
Tel.: +86-10-62170515

Egypt
44 Gol Gamal St., Agouza, Giza, Egypt

France
Dr. Henri Broch, Universite of Nice, Faculte des
Sciences, Parc Valrose, 06108, Nice cedex 2,
France Tel.: +33-492-07-63-12

Germany
Arheilger Weg 11, 64380 Rossdorf, Germany
Tel.: +49-6154-695023

India
46 Masi garh, New Friends Colony
New Delhi 110025
Tel.: 91-9868010950

London
Conway Hall, 25 Red Lion Square,
London WC1R 4RL, England

Nepal
Humanist Association of Nepal,
PO Box 5284, Kathmandu Nepal
Tel.: +977-1-4413-345

New Zealand
email: bcooke@centerforinquiry.net

Nigeria
PO Box 25269, Mapo, Ibadan, Oyo State, Nigeria
Tel.: +234-2-2313699

Peru
D. Casanova 430, Lima 14, Peru
email: cipsiperu@yahoo.com

Poland
Lokal Biurowy No. 8, 8 Sapiezynska Sr.,
00-215, Warsaw, Poland

Romania
Fundatia Centrul pentru Constiinta Critica
Tel.: (40)-(0)744-67-67-94
email: CenterforInquiry.Romania@gmail.com

Russia
Dr. Valerii A. Kuvakin, 119899 Russia, Moscow,
Vorobevy Gory, Moscow State Univ.,
Philosophy Department

Senegal
PO Box 15376, Dakar – Fann, Senegal
Tel.: +221-501-13-00